

POTOMAC / GARRETT STATE FOREST
DRAFT
ANNUAL WORK PLAN

FISCAL YEAR 2019



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SFI-00050



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DRAFT

Potomac-Garrett State Forest
FY-19
Annual Work Plan



**Potomac-Garrett State Forest
FY-19 Annual Work Plan**

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I. State Forest Overview

The Potomac-Garrett State Forests situated in southwestern Garrett County in Western Maryland have the distinction of being the birthplace of forestry conservation in Maryland. The generous donation of 1,917 acres by the Garrett Brothers in 1906 not only serves as the foundation of the Garrett State Forest, but is the root of both Maryland's present Public Lands system and Forest Service. Mountain forests, streams and valleys make up the nearly 19,000 acres of this State Forest. The forest cover is predominantly a second growth mixed hardwood forest dominated by mixed oaks, sugar and red maples, black cherry, basswood, ash and birch. The geography of this area provides for a wide range of growing conditions from the harsh, wind and ice swept ridge tops of Backbone Mountain to the deep rich slopes above the North Branch of the Potomac River. Much of the State Forest lands contain excellent quality hardwoods.

II. Annual Work Plan Summary

In addition to the routine operations and management of the State Forest, the FY-19 Annual Work Plan for Potomac-Garrett State Forest details three Special Management Projects and 16 Land Management Projects that will be the focus of the State Forest management staff for FY-19. All projects and proposals within this Plan have been developed to meet one or more of the Land Management Guidelines and Objectives as seen in the Potomac-Garrett State Forest Sustainable Forest Management Plan including:

Forest Economy: management activities with a purpose to maintain an economically sustainable forest and contribute to the local economy through providing forest-related employment and products.

Forest Conservation: management activities with a purpose to protect significant or unique natural communities and elements of biological diversity, including Ecologically Significant Areas, High Conservation Value Forests and Old Growth Forests. Old Growth forest management serves to restore and/or enhance old growth forest structure and function.

Water Quality: management activities designed to protect or improve ecological functions in protecting or enhancing water quality.

Wildlife Habitat: management activities with a purpose to maintain and enhance the ecological needs of the diversity of wildlife species and habitat types.

Recreation and Cultural Heritage: management activities with a purpose to maintain and enhance areas that serve as visual, public camping, designated trails, and other high public use areas.

A. Special Management Projects Include:

1. **Continued Development of the Certified Potomac-Garrett State Forest Sustainable Forest Management Plan** - with special focus on addressing items identified as in need of improvement as a result of the FSC/SFI Certification Audits.

2. **ESA Management Plan Development** – Forest management staff will begin to work with Natural Heritage staff to develop management plans for the 34+ ESA areas identified on the forest.

3. **Forest Stand Delineation, Inventory and Monitoring** – Extension of the 5-year project to re-inventory and redefine stands on the entire forest. With the initial effort to collect forest wide data completed and being utilized in all land planning efforts, inventory work will continue in the form of follow-up monitoring protocols associated with the initial inventory and certification requirements.

B. Land Management Projects Include:

-Continuation of the Watershed Protection Project mitigating impacts of the harmful forest pest carried out as: Hemlock Woolly Adelgid Mitigation / Red Spruce Restoration.

- Continuation of the Ecosystem Restoration Project involving control of invasive, exotic plants forest wide.

-1 Wildlife Habitat Project affecting approximately 4 ac. of forest land to improve habitat elements associated with a wildlife opening.

- 13 Silvicultural Projects including:

- 3 Intermediate harvests on 78 acres of hardwoods;
- 2 Intermediate harvests on 14 ac. of conifer plantations;
- 1 Regeneration harvest on 5 acres of mixed conifer/hardwood;
- 1 Single tree selection harvest on 17 conifer plantation;
- 6 Non-commercial Silvicultural practices to be done as “weeding” practices to promote regeneration and seedling establishment by controlling interfering, undesirable tall woody vegetation on 149 acres; and by controlling interfering and undesirable fern, grass and dewberry over 108 acres.

Forest harvest operations are undertaken to utilize mature and dead/dying/diseased trees; to thin overstocked stands; to improve and diversify wildlife habitat; to effectively correct public safety concerns and issues; to reduce the forests vulnerability to insect attack, disease or wildfire hazard; to facilitate certain approved research needs; to improve certain aesthetic aspects of an area; and to improve the proportions of age class and species diversity within stands and management blocks. This forest has been intensively managed for over 100 years, utilizing both even and uneven-aged techniques via selective removals and regeneration harvests. Early records indicate that as cut over land was acquired, foresters ‘culled’ the forest, removing the poorly formed and damaged timber left behind in the wake of the cut and run practices employed by early timber speculators. By removing these undesirable trees, newly forming seedlings were released from competition and were thus cultured into the future growing stock of trees that we enjoy today. The

benefits of this work have been significant including: improved wildlife habitat diversity, improved forest health and more abundant mast production, improved utilization of gypsy moth damaged trees, reduced forest fire hazard, and the considerable financial contribution to the State and local economies, as well as to those employed in the forest products industry.

Approximately 540,000 board feet of timber will be contracted for harvest in FY-19. The timber will put an estimated \$97,400 worth of raw wood products out into the local markets. Much of the silvicultural work laid out in this work plan is focused on initiating seedling development to better insure regeneration successes in future harvests. Much of the value of the harvests in the work plan will be directed back into the forest providing the essential investment in pre-harvest cultural work that will assure the long term sustainable management of these important forest resources.

The cultural operations and management projects outlined within the FY-19 Annual Work Plan are selected to provide significant contributions to sustainability of the forest resources found within the Potomac-Garrett State Forest and the ecosystems associated with it.

III. General Location Maps for FY-19 Land Management Proposals (Map Key)

Potomac State Forest Mapped Sites

Recreation Proposals

1. Loop Rd / Wallman Snowmobile Trail Stabilization and Erosion
2. Wallman ORV Trail - Surface Stabilization

Watershed Protection

1. Comp. 19 – Lostland Run HWA Mitigation/Red Spruce Planting
(Continue FY-12 Project)

Silvicultural Proposals

1. Comp. 16 Stand 12 (Shelterwood Thinning and Treatment of Interfering Vegetation.)
2. Comp. 23 Stand 6 (Single Tree Selection Harvest for Conifer Management in ESA)
3. Comp. 26 Stand 6 (Regeneration/clear-cut in Mixed Red Pine / Hardwoods ESA Mgmt)
4. Comp. 25 Stand 7 (Thinning Conifer Management in ESA)
5. Comp. 25 Stand 13 (Thinning Conifer Management in ESA)

Garrett State Forest Mapped Sites

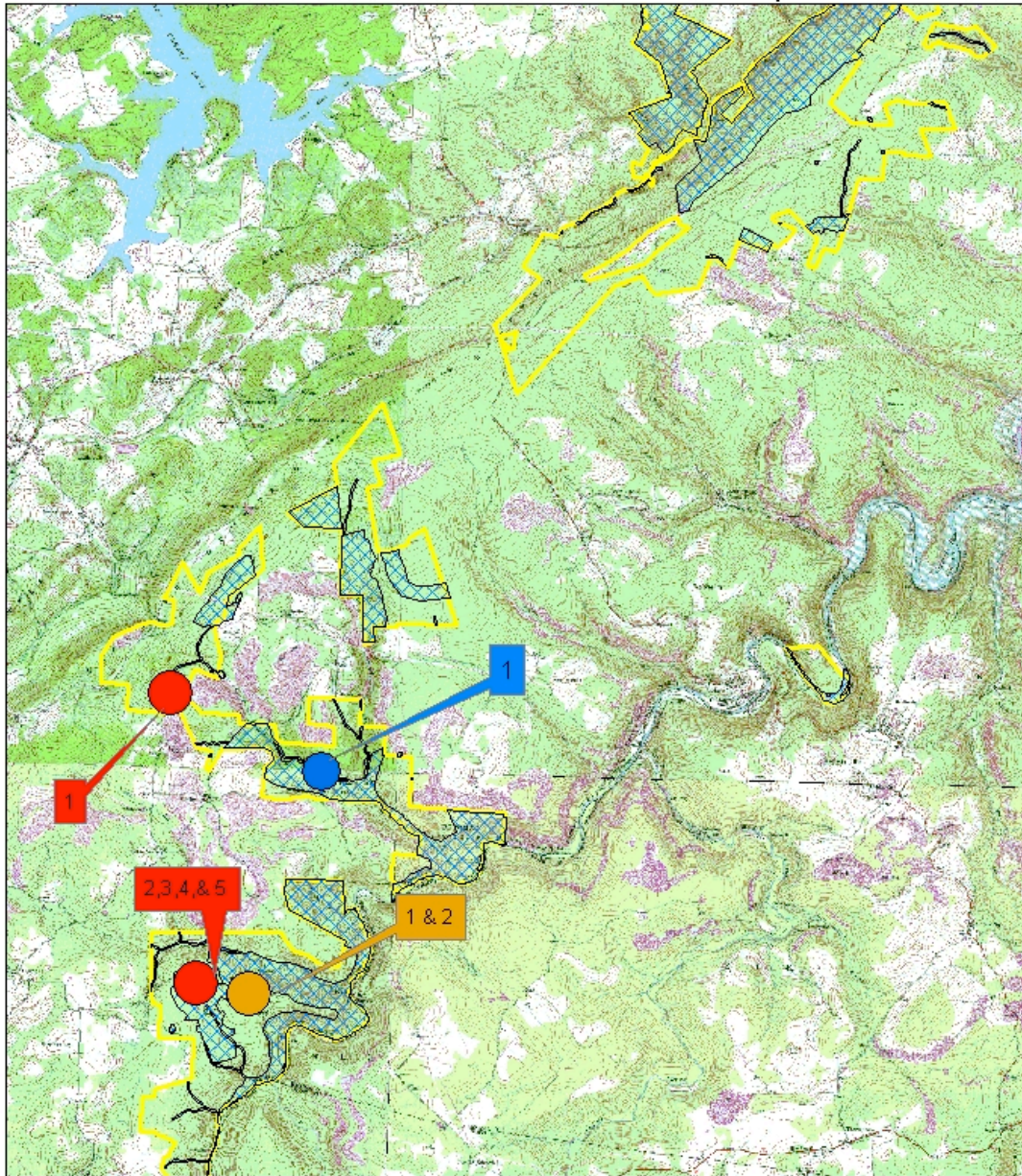
Wildlife Management Proposals

1. Comp. 34 Stand 2,5,6 HCVF / ESA (Wildlife Opening, Edge Cut)

Silvicultural Proposals


1. Comp. 33 Stand 6 (Regeneration / Clear-cut with Variable Retention)
2. Comp. 35 Stand 6 (Shelterwood Thinning and Treatment of Interfering Vegetation)
3. Comp. 43 Stand 8 (Thinning hardwoods.)
4. Comp. 45 Stand 1 (“Weeding” / Treatment of Interfering Vegetation)
5. Comp. 45 Stand 2 (“Weeding” / Treatment of Interfering Vegetation)
6. Comp. 45 Stand 10 (“Weeding” / Treatment of Interfering Vegetation)
7. Comp. 45 Stand 15 (“Weeding” / Treatment of Interfering Vegetation)


Potomac State Forest AWP-19 General Location Map



 High Conservation Value Forest (Total)

 = Silviculture Proposals

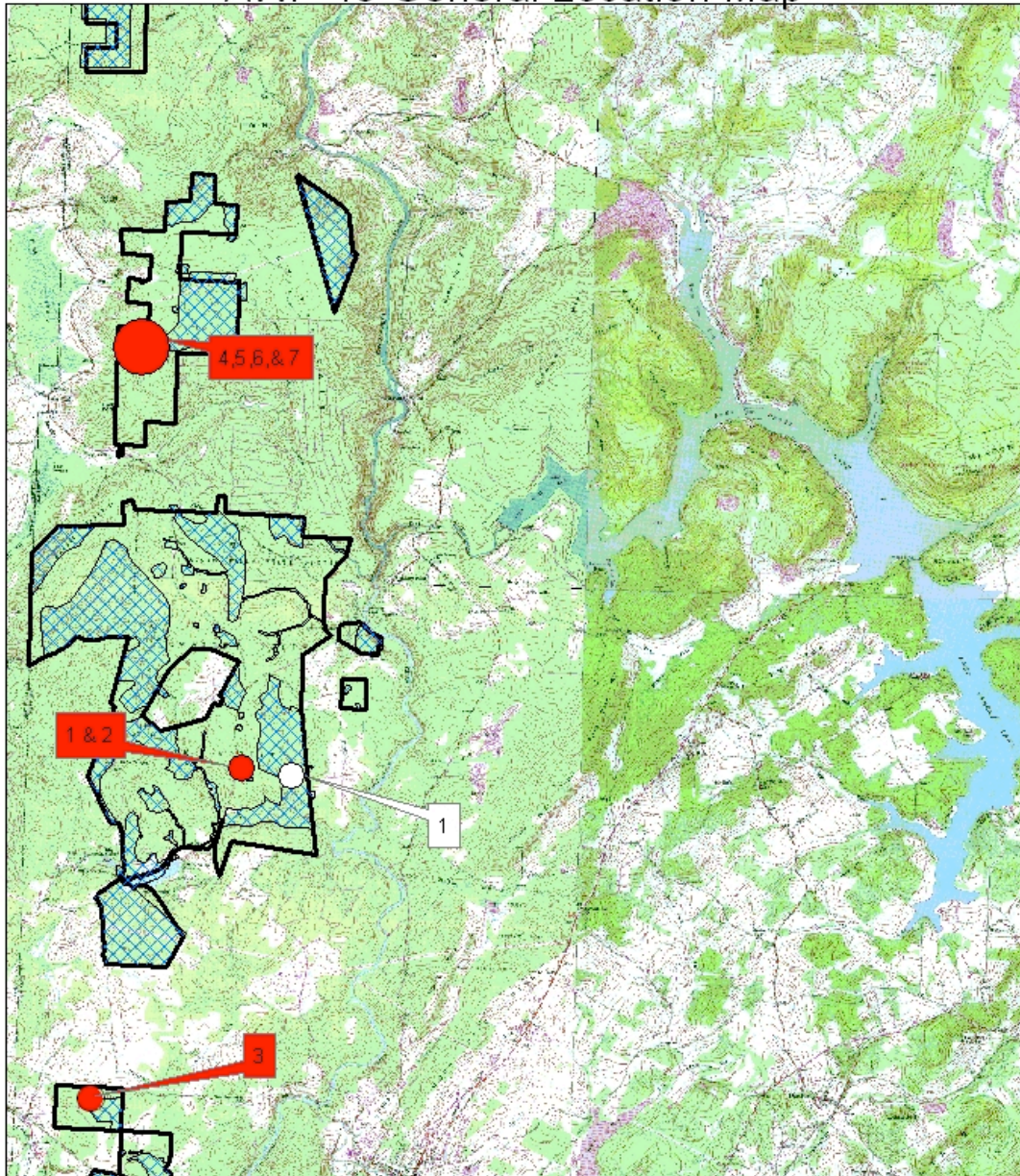
 = Recreation Proposals


 = Watershed Protection

1:100,000



Garrett State Forest AWP-19 General Location Map



 High Conservation Value Forest (Total)

 = Wildlife Proposals

 = Silviculture Proposals

1:100,000



IV. Special Projects - Forest Resource Management and Planning

A. Continued Development of the Certified Potomac-Garrett State Forest Sustainable Forest Management Plan

(This work is done with special focus on addressing items identified as in need of improvement as a result of 2017 FSC/SFI Certification Audits.)

Beginning in 2011, the Forest Service began revising the long term sustainable management plans for all three of the State Forests in the Western Region. The initial framework follows the sustainable management plan format established for the State of Maryland's Chesapeake Forest on the Eastern shore. The Department's goal is to have the updated sustainable forest management plans receive dual third party certification under both the Forest Stewardship Councils (FSC) and Sustainable Forestry Initiatives (SFI) standards and guidelines.

Throughout the course of the next two years, broad resource assessments were carried out identifying the various management units and features located on the forests including identification and mapping of High Conservation Value Forest Areas (HCVF), much of which was formerly identified as the State Forests "Special Management Zone". Within the HCVF are located a broad range of Ecologically Significant Areas (ESA). These areas typically contain rare, threatened or endangered species and their critical habitats. Management schemes for the ESAs on Potomac-Garrett State Forest will be developed in the winter of 2011. By spring of 2011 initial drafts of the Forest's Sustainable Management Plan were developed and shared with stakeholders for initial comment and review. The plans were submitted to both the FSC and SFI organizations in the spring of 2011, at which point audits have been completed on all three of the western State Forests. Following the audits, draft plans and audit findings were presented to the State Forests Citizen Advisory Committees for review and comments. The Draft Sustainable Management Plans were made available for public comment fall of 2011.

Each year the State Forests Management Program is audited for compliance to the standards set forth by the Certifying Organizations. Any shortcomings in the programs identified during the audits are identified in a Corrective Action Reports (CARs) and/or observations identified as being in need of improvement in order to be "certified" as sustainably managed forest lands under the internationally recognized FSC and SFI standards. These corrective actions vary from simple formal documentation of routine practices, to more complex policy and procedure development involving various stakeholders and partners. The program requires that all of these items be addressed before the next annual audit, with some needing more immediate attention. The 2017 audit turned up minor observations that are to be addressed by the next audit. (See Appendix 2 for brief summary of audit findings.) State Forest staff time and field operations are adjusted and redirected to assist in addressing these Corrective Action items in the course of the next year.

B. ESA Management Plan Development

Thirty-four Ecologically Significant Areas have been initially identified on PGSF. Each area harbors unique habitats and sensitive communities that generally contain RT&E species. These communities are in need of special conservation measures. In the winter of 2016, these areas were to have been reviewed with the region's Natural Heritage Biologist to develop site specific management plans to identify conservation measures appropriate for each ESA. This will be done in order that these significant features are not just assumed protected by steering direct management activity away from them, but rather actively identifying appropriate management practices that may increase the stability and long term existence of the communities and habitats that make up these ESAs. These ESA plans will be incorporated into the Potomac-Garrett State Forest Sustainable Forest Management Plan before the next audit cycle.

C. Forest Stand Delineation, Inventory and Monitoring

A critical part of developing long term sustainable management plans is the availability of up-to-date forest inventory data. To this end, the State Forests' staff has been fully engaged in revising the forest stand delineation on the forests. The process continues to consume considerable staff resources as this project is taking shape. This ambitious undertaking has involved collecting detailed inventory data on both overstory and understory conditions over the entire State Forest. The data has been collected and analyzed using the SILVA Inventory System developed by the USFS.

The project involves collecting information on some 22,200 sample points. As the data must be collected during full leaf out seasons between hard frost dates, the working window is five months. The work force of skilled technicians available to us are generally college students that can only offer us three months work before returning to school. To this end, the project was expected to take 4-5 years to complete and cost approx. \$20,000/yr. Our two full time technicians lead and manage this special project on top of their full work load implementing the Annual Work Plan on the forest. The stand delineation and inventory project has resulted in the pulling of one man from his normal duties for the equivalent of approximately six months time each year of the project to serve as crew leader, provide project planning and processing data. Staff assignments and field operations have been adjusted to assure the timely and accurate completion of this important field level assessment that will serve as the basis which we will draw management decisions from for the next 10-15 years.

With the close of the 5th inventory season in FY-16, initial data collection has been completed on this stage of the forest monitoring program and processing of this data has been completed; from which we continue to draw upon for management planning direction. The demand for this important data set is increasingly evident as special projects evolving out of demands placed by Forest Certification Standards utilize portions of this data set for project planning. Examples include the NNIS Inventory and Control Project in the ESAs on Potomac State Forest, as well as each year's FY-Annual Work Plan.

What had historically been carried out on a 10-year interval, offering a 'snap shot' in time view of the forest, has evolved into a regular (annual) sampling approach that gives a more frequent

look at overall forest condition throughout the years. This approach will allow a much closer watch on developing forest conditions and allows for a more rapid and timely response. This approach is especially valuable in light of the numerous and frequent introductions of foreign insects, diseases, and invasive plants that can rapidly disrupt forest systems. The initial ‘Stand Delineation and Inventory Project’ will be continued as a Forest Monitoring program as required under certification in order to allow for documented observations of changing conditions throughout the forest. Program focus will include: monitoring of developing regeneration sites allowing for the timely response to the investment in intensive silvicultural work such as herbicide control of invasive and interfering plants, fencing, and prescribed fire; NNIS monitoring and control work (beyond the special project area identified in this AWP below); silvicultural results with respect to management objectives and outcomes and recreation / visitor impacts, etc.

V. Maintenance and Operations

Aside from the detailed cultural work planned for the State Forests, the following is a partial list of projects that are often on-going from year to year and are an integral part of State Forest operations.

A. Maintenance and Management of Roads and Trails

PGSF staff maintains 72.9 miles of roads and multi-use trails. This work is ever on-going. A lack of sufficient road maintenance budget makes the upkeep of this road and trail system a considerable challenge. A reduction in ORV Permit revenue has left a considerable void in the routine maintenance budget of the State Forest. In FY-13 \$12,000 from ‘ORV Permit Funds’ was budgeted for maintenance to ORV trails and primitive roads on PGSF. In subsequent years, the limited ORV Permit Funds available were redirected toward new trail construction on Savage River State Forest. Preliminary projections for FY-19 ORV Funds for PGSF are also zero. In order to attempt to meet this challenge, alternative sources are continuously sought to provide the necessary equipment, labor and materials required for the routine maintenance and improvements needed to sustain this aging and primitive transportation system.

In FY-18/19 maintenance staff will concentrate on carrying out planned trail maintenance as outlined in the 2 National Recreation Trail Grants detailed in the Recreation Section of this plan. This will be carried out in addition to basic maintenance on the segments of multiple-use and motorized-use trails that have been rehabilitated using National Recreation Trail Grants over the past 5 years, along with routine maintenance of the roads and trails as outlined in the roads maintenance plan.

As a result of the State Forests Certification Audit, State Forest staff has developed a formalized transportation plan in which the entire transportation (road and trail) network has been inventoried and assessed for management, use, and maintenance needs. From this assessment, the State Forest Manager develops annual maintenance plans geared toward making the road and trail system sustainable. Information gathered for this plan is presently being used to prioritize

improvements to be made with the access trails grant referenced above, NRT Grant funds, Critical Maintenance Projects, etc. As work is contracted out, plans will be updated with regard to needs.

The 72.9 miles of roads and multi-use trails are classified by the desired use and condition and are broken down as follows:

17 miles of Class 1 – Year round, permanent, public vehicle access, high traffic areas (non primitive).

General description of these roads is an un-gated, hardened (stone surfaced) access road, with primary drainage provided by use of in-sloping, out-sloping, crowning, ditches, and culvert pipes. Road is designed to accommodate four season traffic.

These roads provide primary access to State Forest recreational-use areas, primarily camping areas and adjacent State parks.

4.4 miles of Class 2 – Year round, permanent, public vehicle access, low traffic areas (primitive).

General description of these roads is an un-gated, hardened (stone surfaced) access road, with primary drainage provided by use of in-sloping, out-sloping, crowning, ditches, and culvert pipes and ***broad based dips***. Road is designed to accommodate four season traffic.

These roads provide year round access to State Forest Areas other than camping areas. The primary difference between class 1 and class 2 roads is the standard at which the traveled surface is maintained. Class 2 roads will use the surface shaping as well as broad based dips, etc., to manage storm flows with ditches and culverts used to handle intermittent and perennial stream flow.

7.9 miles of Class 3 – Seasonal, gated, public vehicle access, low traffic areas (primitive).

General description of these roads is a gated, hardened (stone surfaced) access road, with primary drainage provided by use of in-sloping, out-sloping, crowning, ditches, and culvert pipes and ***broad based dips***. Roads are designed to accommodate four season traffic, but are only periodically opened to allow for seasonal access.

These roads are seasonally opened to provide hunting access to remote areas of the State Forest. Class 3 roads can include Handicapped Hunter Access Roads, as well as other roads that are opened to encourage hunter access.

These roads provide gate controlled seasonal access to State Forest areas. The primary difference between Class 2 and Class 3 roads is the gated access that is used to control the seasonal access. Class 3 roads will use the surface shaping as well as, broad based dips etc, to manage storm flows with ditches and culverts used to handle intermittent and perennial stream flow.

22.2 miles of Class 4 – Gated, service vehicle road (primitive).

General description of these roads is a gated, non-hardened access road, with primary drainage provided by use of in-sloping, out-sloping, crowning, broad based dips and ‘water breakers’ with minimal ditches, and culvert pipes. Road surface varies based on prior use and present needs; but may vary from minimal stone, to ‘seeded to game food’ to natural herbaceous cover. Roads are

designed to accommodate minimal 3 season traffic, and are used by agency staff to carry out work on the forest.

These roads provide gate controlled service access to State Forest areas. The primary difference between Class 3 and Class 4 roads is the surface condition and durability.

Class 4 roads will use the surface shaping as well as, broad based dips etc, to manage storm flows with ditches and culverts used to handle intermittent and perennial stream flow.

Mileage no longer tracked -Class 5 – Temporary/Retired

General description of these roads is a temporary access road, that will be closed to any vehicle access as it no longer serves a State Forest management needs, or roads that may have been retired to provide important sensitive resource protection. These roads have been abandoned after having been “put to sleep” or stabilized to prevent erosion and sedimentation. Road surface varies based on prior use and may vary from minimal stone to reverting to natural herbaceous cover.

These former roads are open to foot traffic only and in many cases may serve as a conduit for hunters or other backcountry users to gain access into remote forested areas. The primary difference between Class 4 and Class 5 roads is the lack of further maintenance on the abandoned Class 5 roads.

As Class 5 roads are abandoned, there is no need to retain them on inventory. Recognizing that they may be utilized by State Forest management staff for foot access, a partial list of the most notable abandoned roads includes:

Class 6 - Special use – Paved surfaces

Includes parking lots and driveway surfaces at the State Forest Headquarters (Office, shop and maintenance compound and paved pavilion areas.)

21.4 miles of Hiking Trails –Year round non-motorized use trails. These designated hiking / and non-motorized use trails and generally include a larger component of ‘single track’, natural surface trail bed. Certain trails are designated ‘foot traffic only’ due to the sensitive nature of their locations.

B. Boundary Line Maintenance

PGSF has 130 miles of boundary line, including interior lines, exterior lines, and road frontage. Boundary maintenance is critical to the management of all public lands. In order to keep up with this effort, PGSF maintains approximately 30 miles of line each year. In addition to routine marking/painting, considerable effort is spent on researching relocating or establishing missing and/or new line, as well as addressing boundary conflicts. As conflicts arise, every effort is made to resolve the issue in a timely and professional manner. Often, this work leads to the need for a licensed surveyor and legal recourse in order to resolve the issue. Boundary work in FY-19 will focus on routine maintenance of located boundary lines.

C. Campground Operation and Maintenance

PGSF offers year round, primitive camping in five separate areas of the State Forest; Lostland Run Area, Laurel Run/Wallman Areas, Snaggy Mt. Area and Piney Mt. Area. Within each area is a 'group site', a rustic trail shelter and several primitive campsites offering a picnic table, lantern post/table and fire ring. From 2003-2009, vault toilets were installed in each of the five areas to improve sanitary conditions for campers and forest visitors. Campsites and trail shelters are available on a first-come, first-served basis. A self-registration kiosk is available at the entrance to each area. Additional seasonal staff is hired to operate and maintain the campgrounds during peak summer use to provide a quality camping experience.

Maintenance and operation of these primitive campsites includes: managing group site reservations; maintenance of information / bulletin boards; camper contacts to insure policies are understood; self registration fee collections and deposits; weekly site inspection and cleaning; hazardous tree evaluation and removals; grass mowing (typically the week before the summer holidays and otherwise as needed); maintenance and replacement of picnic tables, lantern posts, and fire rings; site impact monitoring.

D. 3-D Archery Range Maintenance and Management

PGSF offers the only 3-D Archery Range in the State's Public Lands System. The facility is located behind the State Forest Headquarters. The range offers a 30-target course, with four separate skill levels at each target. The facility is open April 1-Oct. 1, dawn to dusk.

Maintenance and operation of this facility includes: promotion of the facility; maintenance of information / bulletin boards; weekly inspection and cleaning; periodic maintenance and replacement of targets; hazardous tree evaluation and removals; brush removal as needed; site impact monitoring, annual overhaul and patching of targets; seasonal set up and take down for the off season.

E. Interpretation and Education

With limited staffing resources, interpretive efforts have been focused on Sustainable Forest Management Programs for targeted audiences using the interpretive features at the "Kindness Demonstration Area". Targeted audiences have been Agricultural and Natural Resource Leaders, Extension Service, Forestry Boards, forest land owners, and forest land managers. The facility is set up as a self-guided lesson in forestry and wildlife management practices, and is available to groups and individuals wishing to learn more about managing forests.

VI. Recreation Proposals

A. National Recreation Trails Grant Requests

Potomac-Garrett State Forest has submitted three National Recreation Trails Grant Requests to fund enhancements to various recreation trails on the forests.

1. Loop Rd / Wallman Snowmobile Trail Stabilization and Erosion Control

(\$53,770 = \$40,395 Requested Grant funds, \$13,375 matching funds 'in kind'.)

This project involves stabilization and erosion control on the 3.8 mile Loop Rd/Wallman Snowmobile trail. Work will include: reshaping eroded crown of trail bed, placing and compacting 0.6 miles of CR-6 crushed stone on the Handicapped Hunter Access section of this trail, replacing 7 failing culverts, repairing problem pothole areas, hardening / surfacing 1.5 miles of heavily eroded trail bed with CR-1 stone and correcting drainage issues, and cutting brush and hazardous trees over the entire 3.8 mile length of this trail. (See attached project map)

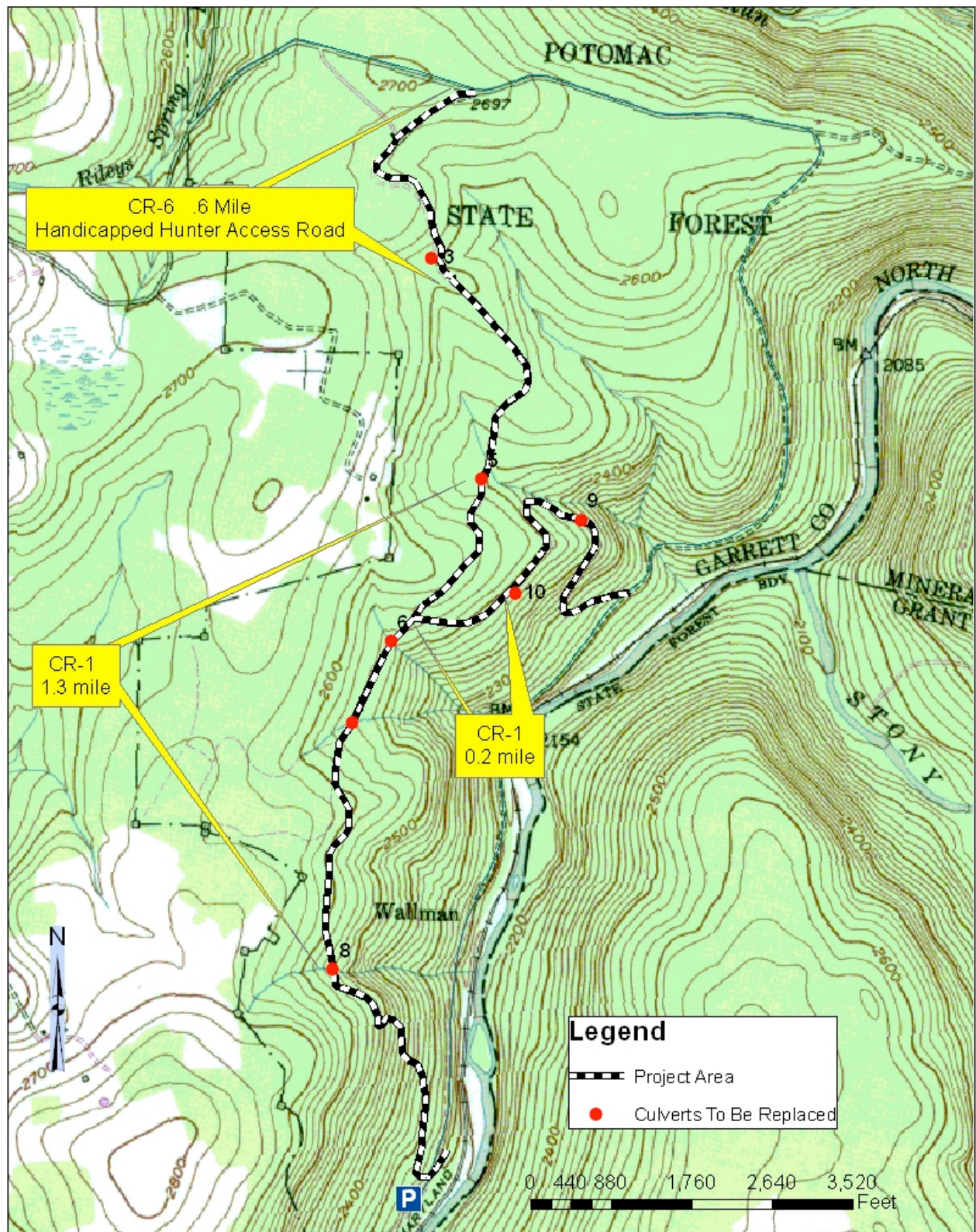
2. Wallman ORV Trail - Surface Stabilization

(\$46,051 = \$36,341 Requested Grant funds, \$9,710 matching funds 'in kind'.)

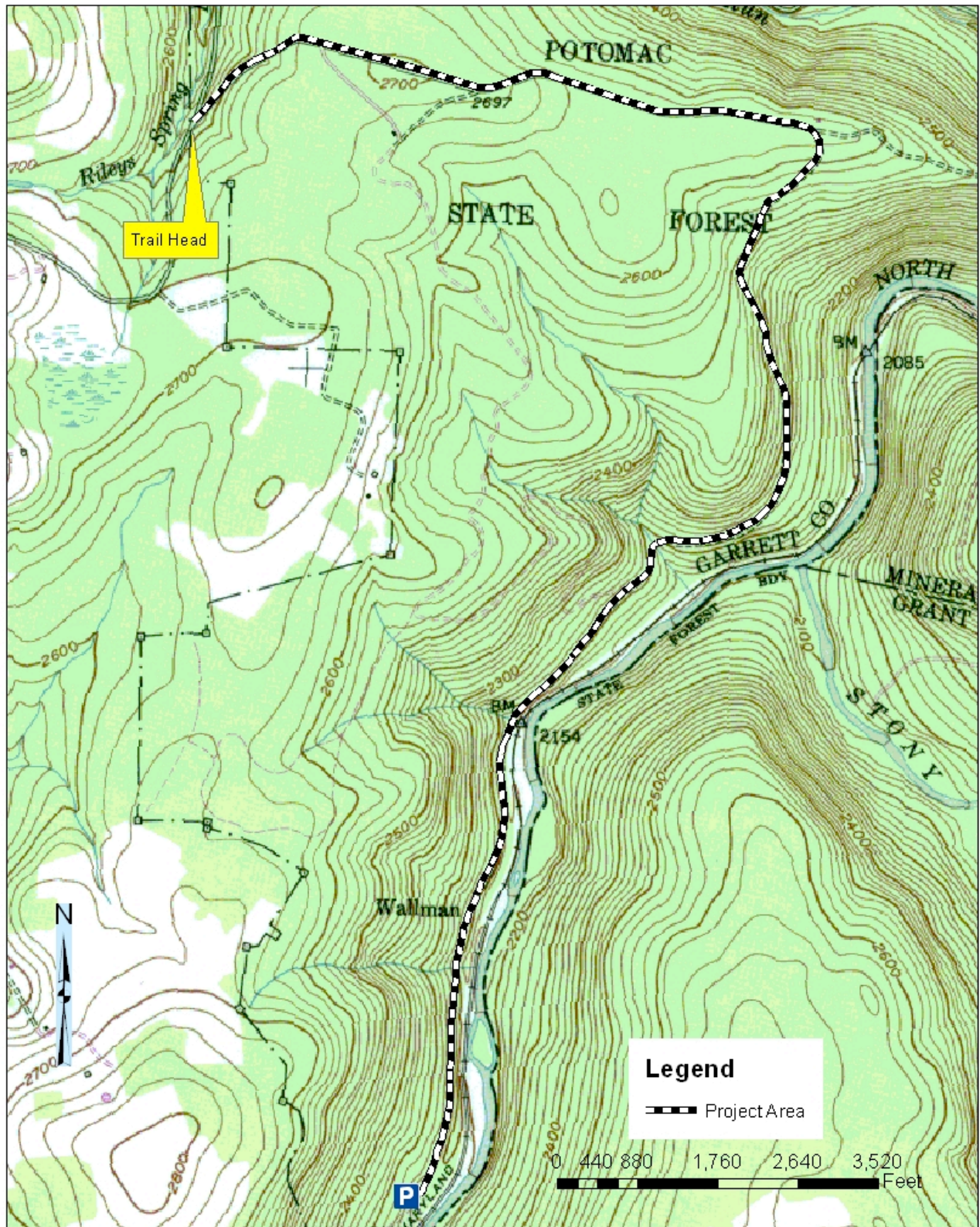
This project will cover 4 miles of the Wallman ORV Trail. Beginning at the Trail Head and ending at the Fisherman's Access/ Parking lot at the end of the trail (see attached project maps). The proposed work will involve stabilization of the hardened trail surface, including "top dressing" 4 miles of Wallman ORV trail with roller-compacted crushed stone and repairing approx. 300 feet of eroded road base (problem /pothole areas) to restore proper drainage and sufficiently harden the traveled ORV trail surface on the Wallman ORV trail; work will include brush removal along trailside, and re-blazing and marking trail.

MD DNR spent \$182,038.76 between October 29, 2014-June 6, 2015. The trail was fully rehabbed to include; replacing failed culverts, grading/shaping road crown, replacing eroded base material with CR-1 stone, and Top-dressing (roller-compacted) with CR-6 stone. Based on State Forest roads and trails management plan, maintenance plan for this type of trail = every two years should be graded, rolled and top dressed with approximately 470 ton of CR-6 stone per mile and any problem areas be patched with CR-1 stone. On site inspection indicates that this work is needed as proposed

Loop Road/Wallman Snowmobile Trail Stabilization and Erosion Control



Wallman ORV Trail - Surface Stabilization



VII. Watershed Protection

1. COMPARTMENT 19

FY-19

Lostland Run HWA Mitigation / Red Spruce Planting

Description

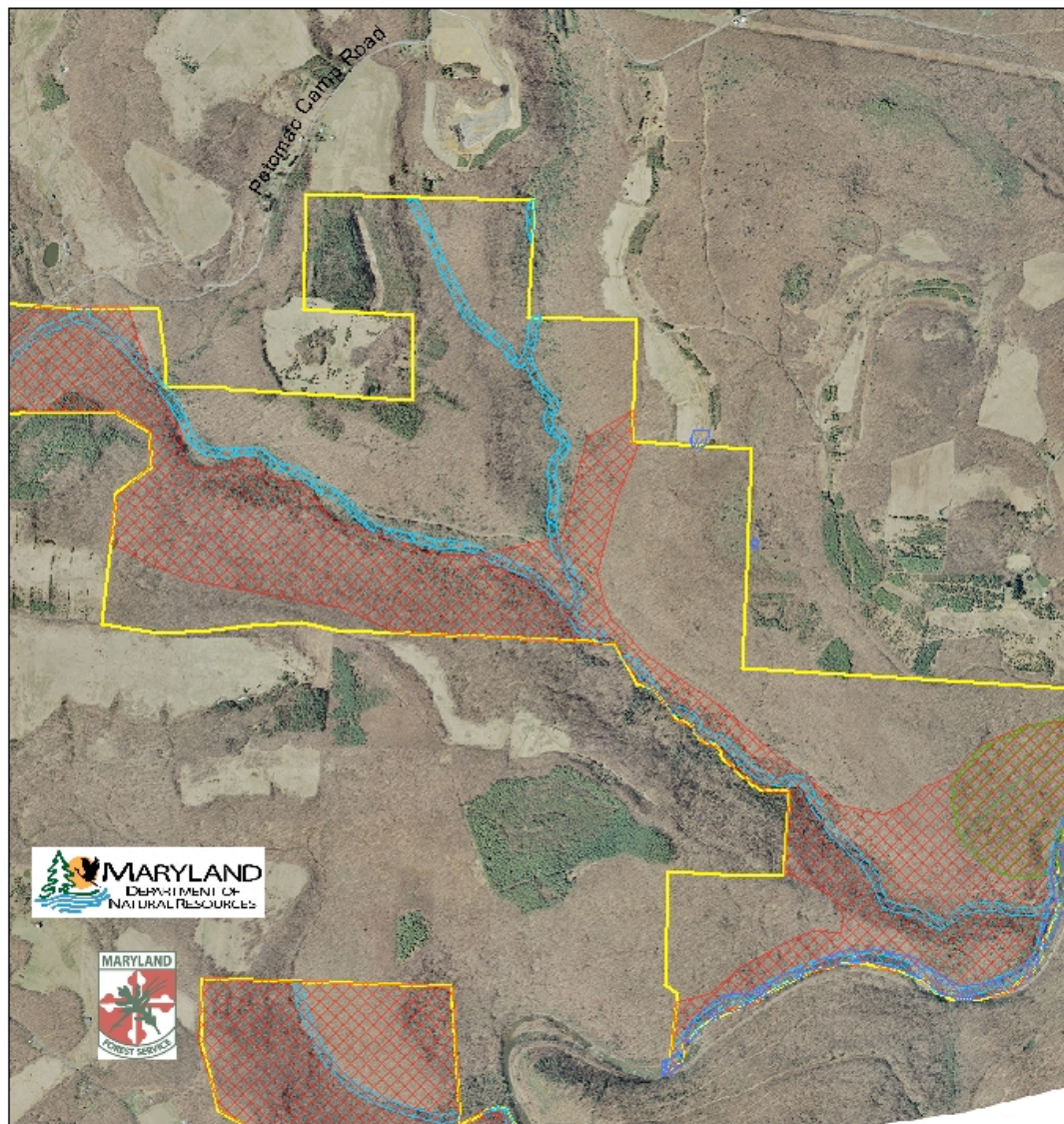
In 2004 the significant forest pest, Hemlock Woolly Adelgid (HWA), was discovered in the Lostland Run drainage. This Asian, exotic, insect pest is a killer of hemlock trees. It has been in the U.S. since 1924. With no natural enemies in this country, it has left a trail of dead hemlock forests in its wake. MD Dept. of Agriculture and State Forest staffs have been monitoring the infestation in Lostland since its discovery. The population has remained at a low level. Winter temperature extremes here in Garrett County appear to be keeping the population in check. Presently, there are limited available biological or chemical controls suitable for stand level control of this pest, though on-going research is showing positive results with a number of biological controls including predatory insects. Soil drench and/or tree injection methods are being used to control certain selected, critical, or important smaller stands and individuals; most notably such treatments in the Swallow Falls State Park and adjacent stands on the Garrett State Forest.

Historically, stands infested with HWA have been relatively short lived, resulting in complete stand conversions often in the course of one decade. As hemlock stands on the State Forest are generally associated with riparian forested stream buffers, the loss of these stands may have significant negative impacts to the water resources.

Evidence of the impending mortality is becoming more noticeable. HWA can be found throughout the entire drainage, and trees in several locations are beginning to show signs of stress as a result of the infestation. In order to provide further protection against the shocking loss of the hemlock trees, the State Forest staff has initiated a project to mitigate the likely loss of the hemlock cover. In an attempt to establish a native conifer that will provide benefits similar to those offered by the hemlocks, test plots of Red Spruce seedlings were planted beneath the hemlock canopy in both the spring of 2007 and 2008. In the spring of 2009, 500 Red Spruce seedlings were planted in the riparian buffer zone. These plantings have been monitored, and planting methods have been modified to insure the best possible survival in this difficult planting site. Analysis of these three test plantings indicate that the dense shade present in these relatively undisturbed hemlock/hardwood riparian forests does not allow sufficient sunlight to penetrate to the forest floor for the successful establishment of even the very shade tolerant red spruce seedlings. Our observations indicate that forest floor light levels must be increased in order to allow the seedlings to be able to photosynthesize and become established.

Further research and experimentation with control of the available light is necessary to determine if under planting with Red Spruce is a viable option that may offer a natural means of offsetting the negative impacts associated with the likely loss of the hemlock stands along this important brook trout stream.

Compartment 19 Lostland Run HWA Mitigation/ Red Spruce Underplanting



Compartments.....18,19,20,21

39 22' 54.69" N 79 16' 41.63" W

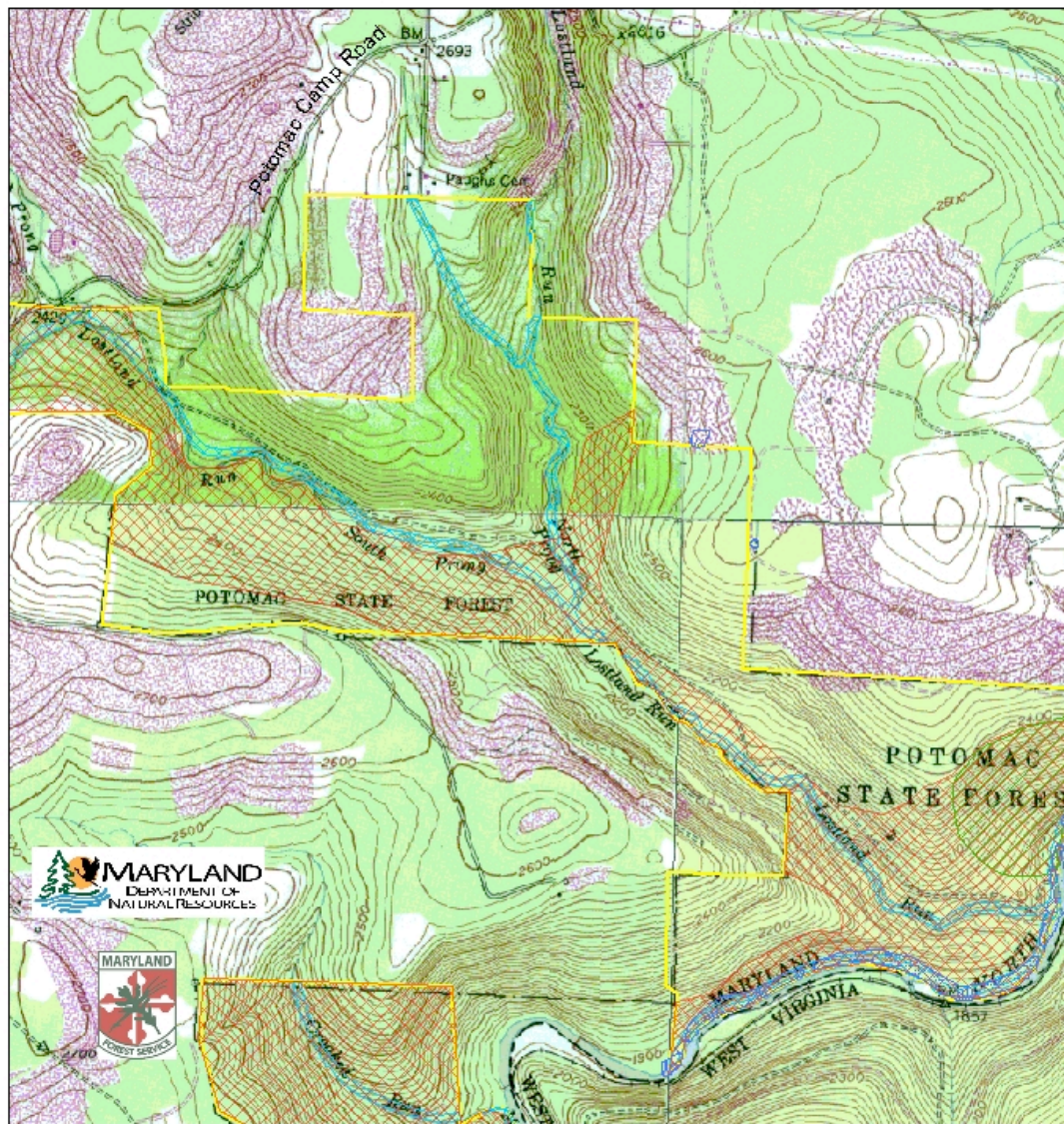
0 650 1,300 2,600 3,900 5,200 Feet

HCVF Components

- Old Growth and 300' Buffer
- Old Growth
- Wetlands
- Wetlands of State Concern and 100' Buffer
- Ecologically Significant Areas
- Streams and 50' Buffer
- Wetlands w/ 50' Buffer
- Lostland Run Road



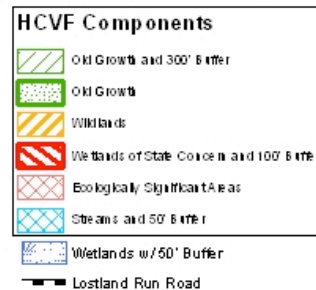
Compartment 19 Lostland Run HWA Mitigation/ Red Spruce Underplanting



Compartment.....18,19,20,21

39 22' 54.69" N 79 16' 41.63" W

0 650 1,300 2,600 3,900 5,200 Feet



VIII. Ecosystem Restoration / Protection Projects

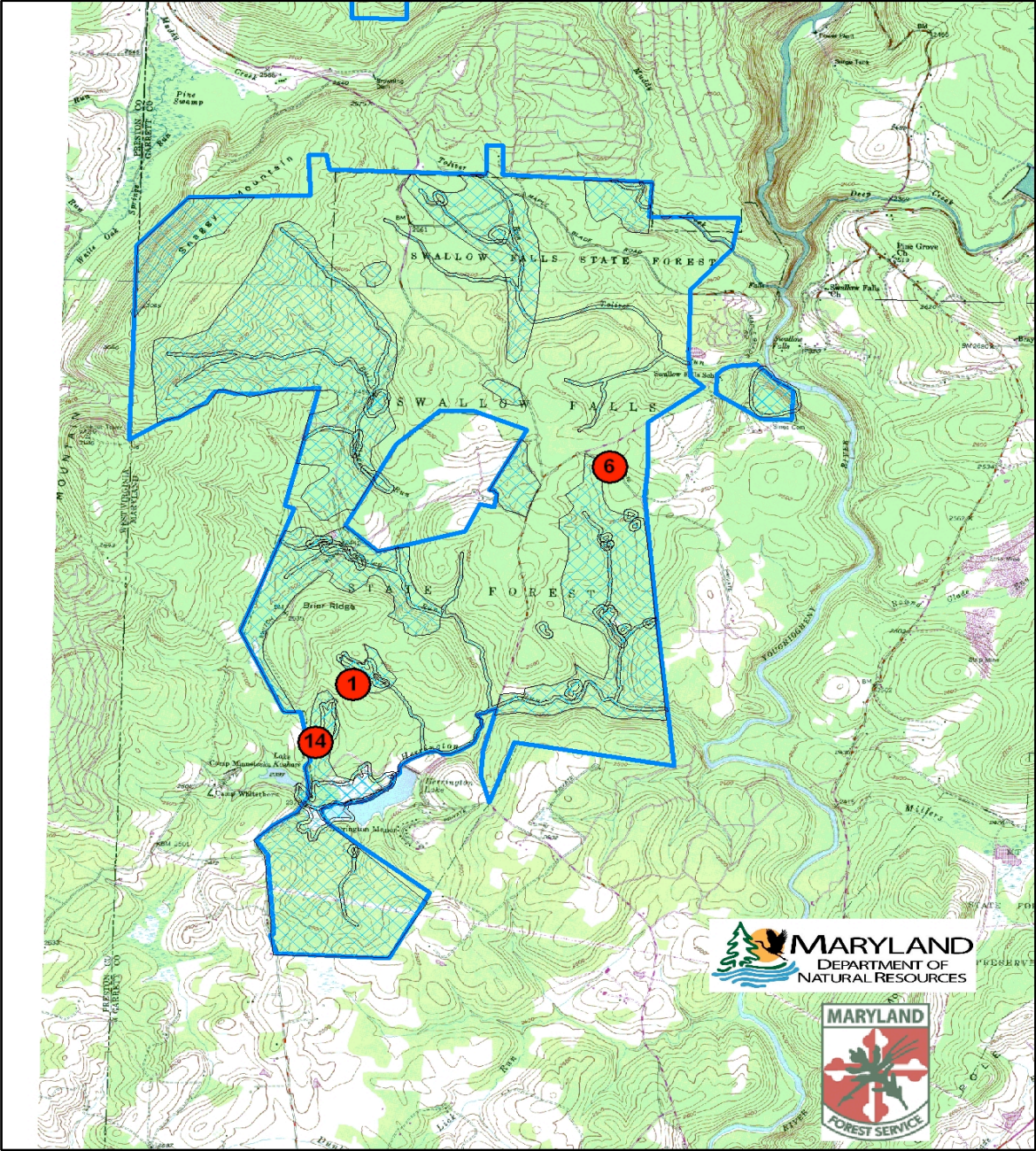
A. Non-Native Invasive Species (NNIS) Control

Across the State, a biological invasion of non-native plants is spreading into our fields, forests, wetlands and waterways. Various referred to as exotic, non-native, alien, or non-indigenous, invasive plants impact native plant and animal communities by displacing native vegetation and disrupting habitats as they become established and spread over time. Early Detection and Rapid Response (EDRR) to control the spread of problematic species is important for the conservation of our native flora and fauna. Control efforts often require considerable resources (labor, time and money). As in many cases, the introduction of these widespread and invasive plants cannot be prevented. It is important to evaluate and plan control efforts in order that such efforts contribute meaningfully to the success of forest conservation plans. EDRR efforts targeting NNIS discovered during the forest wide inventory have been successful in identifying and controlling a number of NNIS populations. State Forest staff has treated and are monitoring the following sites:

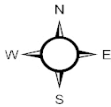
1. Tree of Heaven
2. Japanese Knotweed
3. Mile A Minute
4. Tree of Heaven
5. Tree of Heaven
6. Japanese Knotweed
7. Japanese Spirea
8. Tree of Heaven
9. Tree of Heaven
10. Japanese Knotweed
11. Japanese Knotweed
12. Japanese Knotweed
13. Mile A Minute
14. Japanese Barberry
15. Oriental Bittersweet
16. Tree of Heaven
17. Tree of Heaven
18. Tree of Heaven
19. Japanese Knotweed

These aggressive non-native invasive plants are found throughout Garrett County, but are not considered to be established on PGSF. The small colonies are now part of our long term monitoring program, with follow-up treatments planned as necessary in the interest of preventing these species from establishing themselves in the otherwise natural forest communities in which they were found.

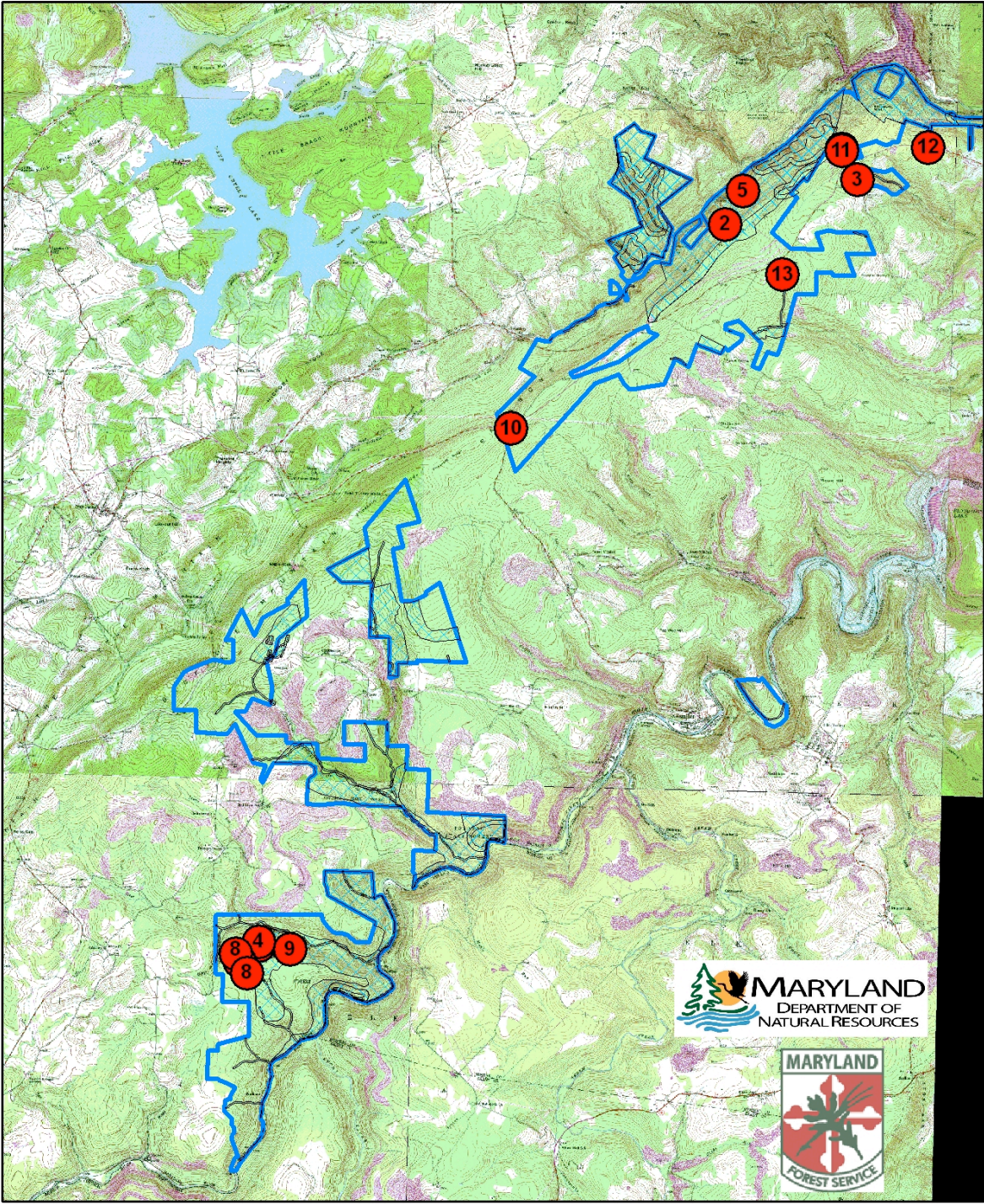
Garrett State Forest N.N.I.S. Monitoring Sites



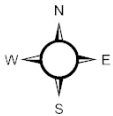
-  Monitoring Sites
-  High Conservation Value Forest (Total)



Potomac State Forest
N.N.I.S. Monitoring Sites



- Monitoring Sites
- High Conservation Value Forest (Total)



IX. Wildlife Management Proposals

COMPARTMENT 34 Stand 2,5,6 Wildlife Habitat Improvements

FY-19

Description/Resource Impact Assessment

Location: This area is located on the south side of Mellott Road. It is accessed by a wet, gated service road approx. 0.5 miles from the intersection of Mellott Road and the Swallow Falls Road in Compartment 34 Stand 2,5,6 of the Garrett State Forest. The site is one of several permanent openings managed for wildlife habitat values.

Forest Community Type and Condition: This 1.2 acre wildlife opening is surrounded by an Alleghany hardwoods stand, comprised primarily of Black Cherry (63%) Red Maple, (25%) and White Oak (8%) with scattered shrubs and woody plants in the understory including, Hawthorn, Arrow Wood Viburnum, Alder and St. Johns Wort. The hardwoods surrounding the field are crowding the field and reducing its ability to offer quality habitat elements. Several sections of the hardwood field edge had been cut as an "edge cut" to offer a transitioning soft edge from the field back 66 ft. into the surrounding hardwood stands. The managed permanent opening is associated with a large wetland complex that contains a number of old inactive beaver ponds, and falls within HCVF that contains the Herrington Springs ESA.

Interfering Elements: Interfering plant competition is prominent, with nearly 100% of the area containing problematic levels of low woody interference in the form of dewberry; fern and grass occupy approx. 20% of the site and tall woody interference is found on 20% as well. The tall woody material is largely storm damaged Red Maple. No non-native invasive species (NNIS) were observed in the inventory. Deer browse impacts in this area are estimated to be high and must be addressed when considering regeneration efforts on this site.

Historic Conditions: This site has long been managed as an important permanent wildlife opening to provide habitat elements not readily found on the primarily forested area. Periodic mowing, sowing, lime and fertilizer applications are made to improve the condition of the field in order to offer a quality habitat element.

A section of the Snaggy Mountain Snowmobile Trail once crossed the headwater drainages below the field openings and ran with the service/access road. The trail was flooded by beavers in winter of 1998, and after several attempts to get the beavers to abandon the crossing, the trail was rerouted out of the drainage. During the late 1990s, youth conservation crews cut back sections of the field edge to improve habitat conditions around the field.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the planned work site or impacted by the management prescription.

Habitats and Species of Management Concern: This wildlife opening falls within an HCVF area that contains the Herrington Springs ESA. This ESA is set up to provide conservation protection to various rare, threatened and endangered plants; Deer Wintering areas; the wildlife opening; and a globally rare amphipod associated with the limestone springs in the area.

Water Resources: The area drains to unnamed tributaries of Herrington Creek within the Youghiogheny River Watershed. While most of the planned management work would be completed outside of protective riparian buffers of the wetlands and streams, the planned work would increase the habitat values of the associated scrub/shrub wetlands that extend upslope toward the field edge. Where practical, this cultural work could be extended into the riparian buffers to improve the growing conditions for the important scrub/shrub community that has been developing around the beaver ponds. There will be no soil disturbance within any riparian buffer area, assuring that the important water resources are protected.

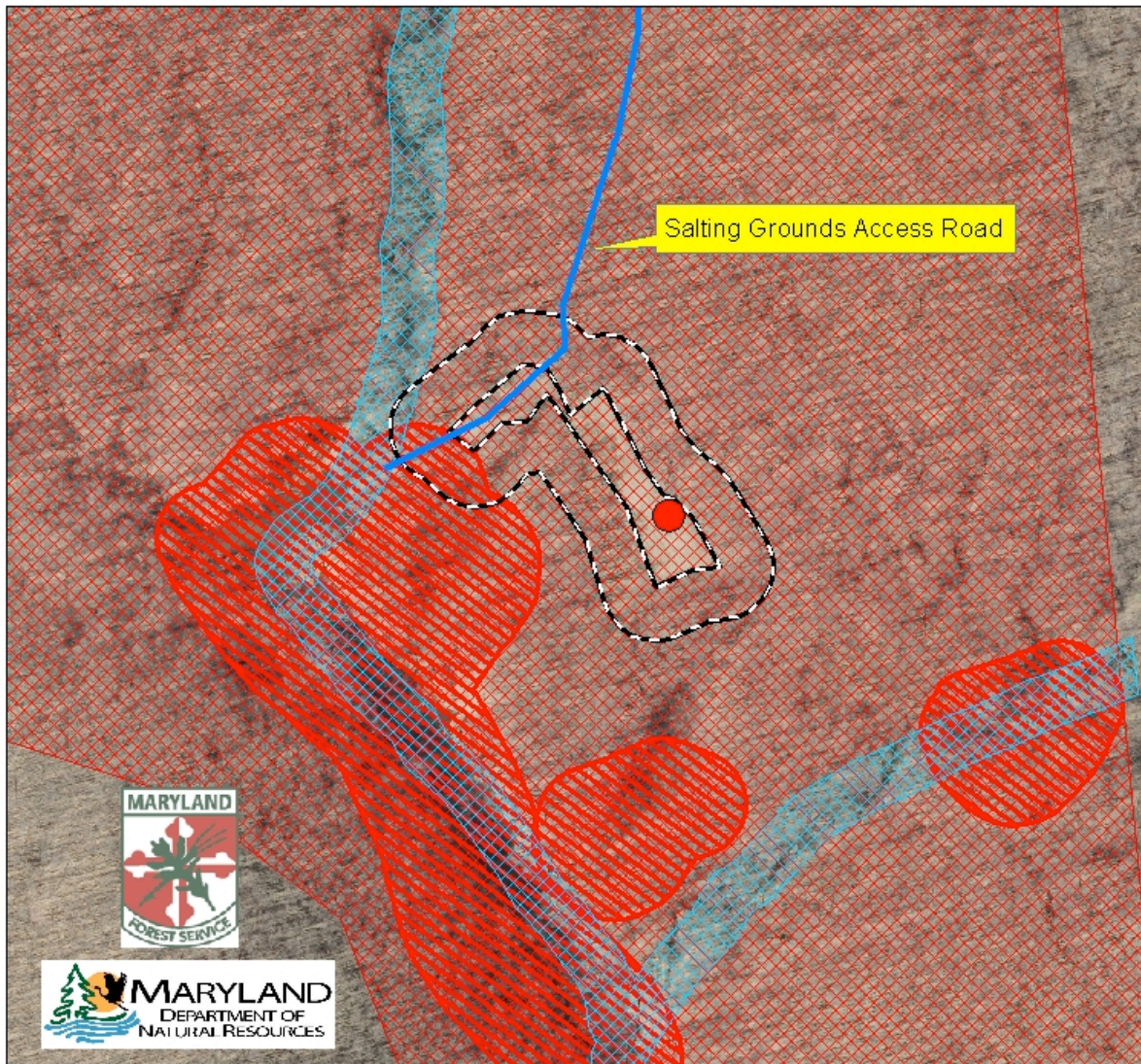
Soil Resources: Underlying soils include: Brinkerton Andover very stony loams' on 0-15% slopes. These soils are generally poorly drained with severe equipment limits because of long periods where the water table is at or near the surface. There is little hazard of erosion. The site has good - very good productivity for woodland management, with a site index of 75-85 for Black Cherry and upland oaks.

Management and Silvicultural Recommendations

The planned work for this site is to "day light" the field edge, cutting all trees 2"DBH or greater (excepting any Hawthorn, apple, or crabapple) 2 chains back from the field edges where practical. Sections of this edge cut will extend to the edge of the scrub/shrub wetland below the fields, extending the early successional habitat conditions associated with that community. The day lighting will reopen the field to full sun light allowing for better vegetation management on the field while also providing a soft transitional edge for wildlife cover. Much of this work will be carried out by simply dropping the trees and piling them as brush piles / wildlife cover; or allowing them to lay as protection from deer browse to the expected regenerating seedlings and sprouts. As there is a considerable amount of material to be cut, the larger trees may be removed for firewood as weather and road conditions allow. The completed project will provide an important food source for a variety of wildlife species including woodcock, grouse, turkey, and deer as well as a variety of non-game species.

The proposed work is consistent with the management goals of the ESA; improving habitat elements and conservation values of the wildlife opening; improving habitat in a known deer wintering area; protecting any RT&E plants and not impacting the springs associated with the rare amphipod.

Compartment 34 Wildlife Opening FY-19



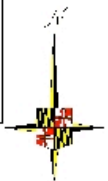
Field Acres.....1.2
 Harvest Area.....4.0
 Forest Type.....Allegheny Hardwood
 Basal Area.....102
 BA AGS.....36
 Stocking.....55%
 Site Index.....65 for BC
 Composition.....Black Cherry 63%
 Red Maple 25%
 White Oak 8%

Proposed Area

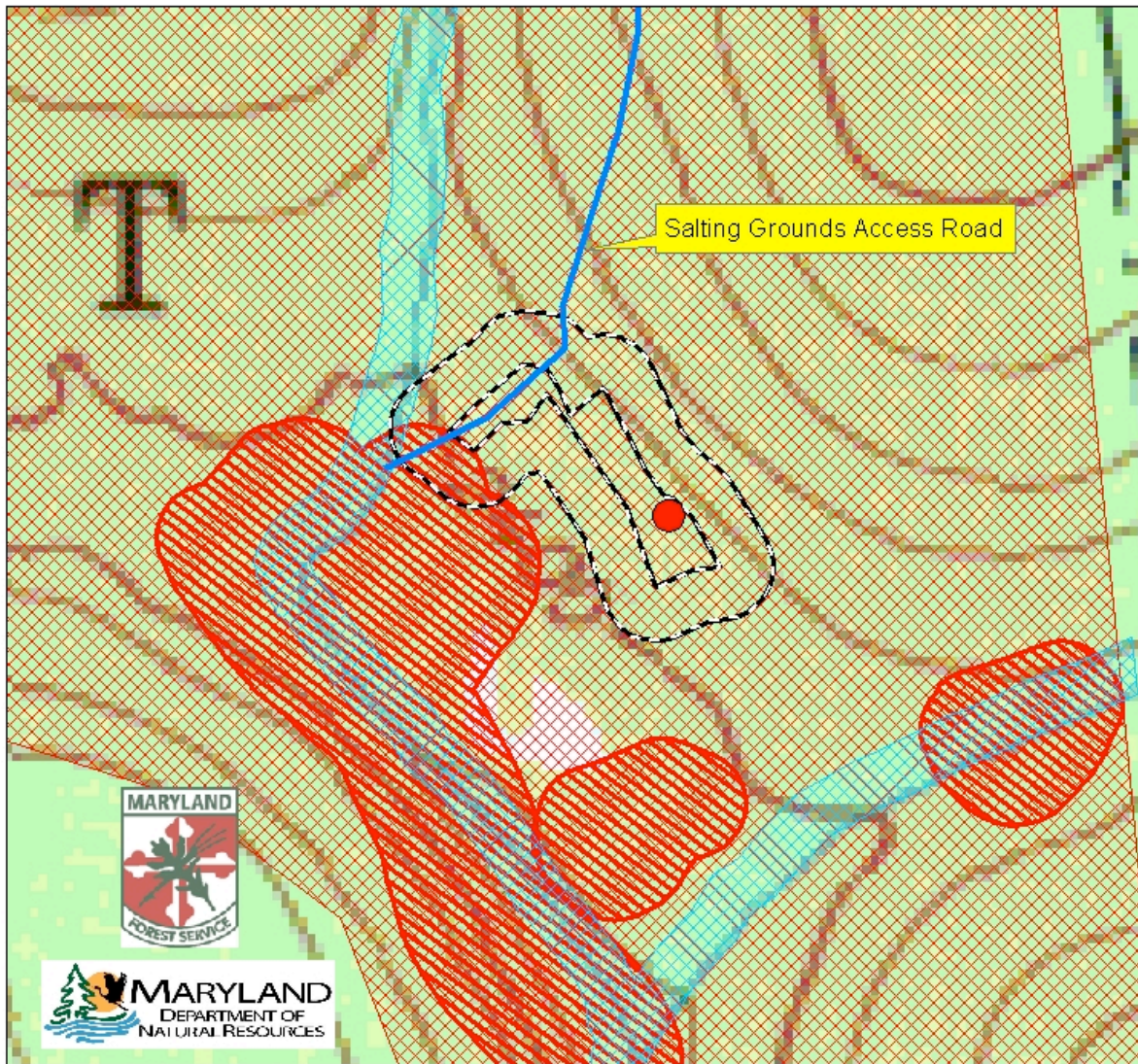
Wildlands
 Ecologically Significant Area
 Old Growth w/ 300' Buffer
 Old Growth Management Unit
 Wetland of State Concern w/ 100' Buffer
 Streams w/ 50' Buffer

0 95 190 380 570 760
 Feet

79°25'52.488"W 39°28'20.404"N



Compartment 34 Wildlife Opening FY-19



Field Acres.....1.2
 Harvest Area.....4.0
 Forest Type.....Allegheny Hardwood
 Basal Area.....102
 BA AGS.....36
 Stocking.....55%
 Site Index.....65 for BC
 Composition.....Black Cherry 63%
 Red Maple 25%
 White Oak 8%



Proposed Area



Wildlands



Ecologically Significant Area



Old Growth w/ 300' Buffer



Old Growth Management Unit



Wetland of State Concern w/ 100' Buffer

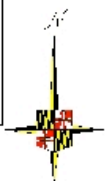


Streams w/ 50' Buffer

0 95 190 380 570 760
 Feet



79°25'52.488"W 39°28'20.404"N



X.Silvicultural Proposals

COMPARTMENT 16 Stand 12

FY-19

Description/Resource Impact Assessment

Location: This area is located on the Lostland Complex in Compartment 16 Stand 12 of the Potomac State Forest. The stand sits north of Bethlehem Road and is accessed by a private, gated lane along the edge of a neighboring farmers hay field. (Previous harvests have been accessed through this neighbor's field by negotiating temporary access with a use agreement.)

Forest Community Type and Condition: This 31-acre site contains a mature, 114 year old Northern Hardwoods stand. The over story is made up primarily of Red Maple(67%) Northern Red Oak (13%), White Oak (7%) and Chestnut Oak (5%). Having been thinned in 1992 the stand is fully stocked at 75% relative density and 123 sq.ft. BA/acre, of which 102 sq. ft. are acceptable growing stock and an average merchantable diameter of 16.5 inches. Sufficient competitive, desirable regeneration is present on only 21% of the site due largely to the considerable amount of interfering understory plants.

Interfering Elements: Interfering plant competition is high, with 26% of the stand having problematic ferns and grasses, and 3% having problematic Dewberry cover. Tall woody interference occupies 62% of the stand and is comprised primarily of Witch-hazel and Black Birch. No non-native invasive species (NNIS) were observed in the stand inventory. Deer browse pressure in this area is estimated to be moderate to high and must be addressed when considering regeneration efforts on this site.

Historic Conditions: This site, like most of PGSF, was likely cutover and burned around the turn of the 20th century. This stand was thinned in 1992 and was sprayed for Gypsy Moth suppression in 1989 and 90. There were no forest pests identified during the inventory.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site or impacted by the silvicultural prescription.

Habitats and Species of Management Concern: The Forest Manager knows of no habitats or species of management concern on the site or impacted by the silvicultural prescription.

Water Resources: This stand has a north / north-west aspect and drains toward the headwaters of Lostland Run, a native trout stream within the Potomac River Watershed.

Recreation Resources: There are no developed recreation resources associated with this stand.

Soil Resources: The upper slopes underlying soils include: 'Dekalb and Gilpin very stony loams' on 0-15% slopes. While the Lower slopes are underlain with Cookport and Ernest very stony silt loams on 0-8% slopes, with a small inclusion of Ernest silt loam on 3-8 % slope. These soils are generally moderately deep and well drained with inclusions of some poorly drained soils, with moderate equipment limits because water table is close to the soil surface in winter and early in

spring, especially on the lower slopes. The site has very good productivity for woodland management, with a site index of 75-85 for upland oaks.

Management and Silvicultural Recommendations

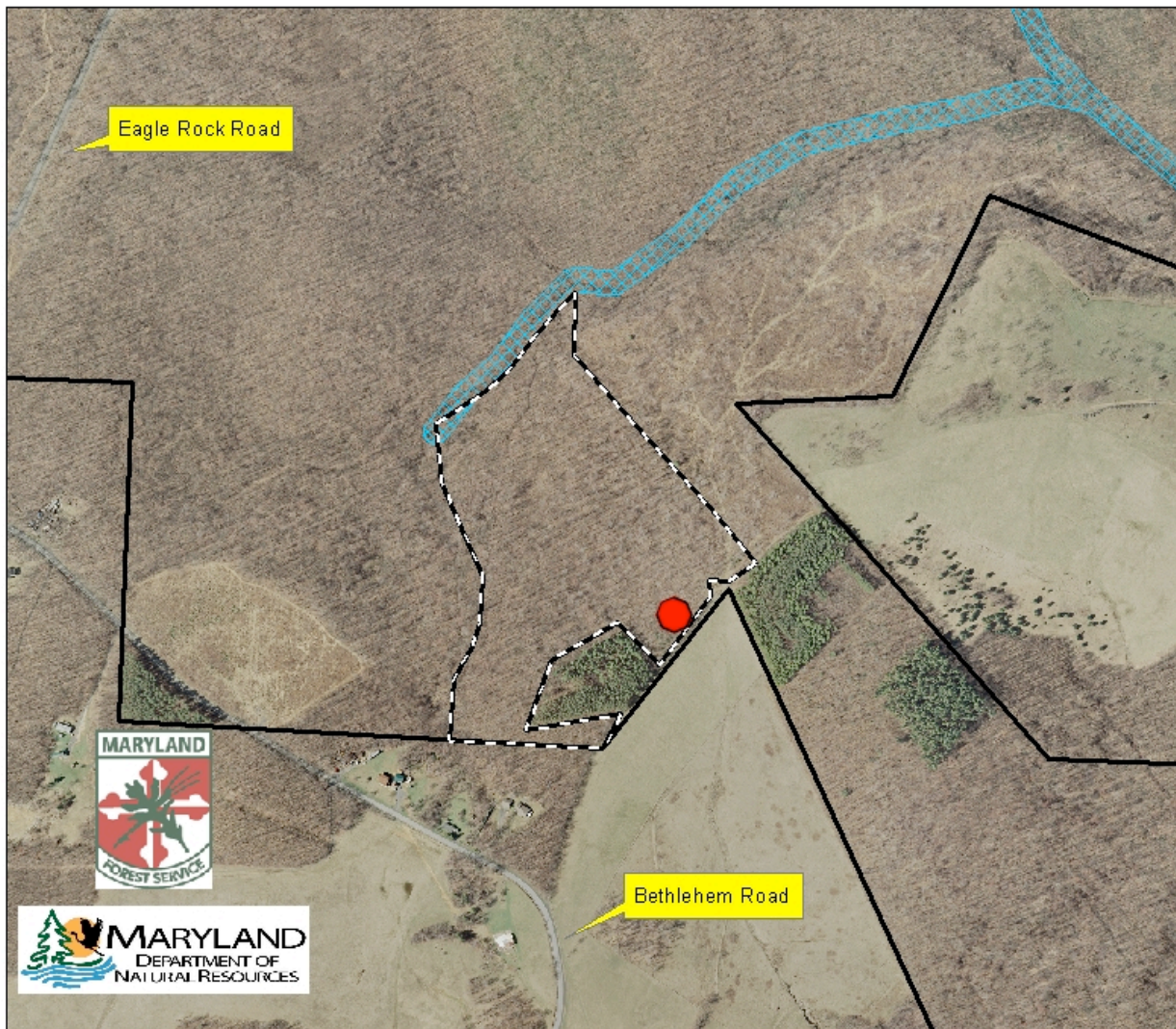
The planned silvicultural treatment for this site is to regenerate using a 2-stage shelter-wood system. The first stage of this regeneration system will be an “establishment / seed cut” that will involve both thinning the stand and treating the interfering understory plants that are limiting seedling development in order to provide suitable conditions for both seed production and seedling establishment.


The stand will be thinned to reduce the stocking, with the primary objective of allowing critical sunlight to reach the forest floor to produce conditions suitable for germination and seedling development. This thinning will be conducted as a crown thinning and will be carried out as a commercial harvest. In order to make this thinning commercially practical, the stand density will be reduced to approximately 50-60% relative density by removing 30-40 sq. ft. BA/ac. from the sawtimber size classes; retaining most of the poletimber until final harvest for stump sprout contribution toward regeneration. This thinning will yield approximately 2,500-3,000 board feet /acre. The harvest will remove unacceptable growing stock including the over mature and poor condition sawtimber trees. Marking will focus on retaining high quality stems in the dominant and co-dominant canopy positions as desirable seed trees, with a focus on retaining Oaks. In order to retain important wildlife habitat elements, where available, 4-6 individual cavity bearing trees/acre will be marked for retention during this operation; with these trees being carried through to future final harvest.

As interfering plant competition poses a significant impediment to successfully regenerating this stand, it must be addressed at this first stage. To that end, a 'weeding practice' will be utilized, whereby during the harvest, the contract will call for the cutting and or crushing of undesirable, interfering woody stems up to 4" in order to allow the sunlight to fully reach the forest floor to stimulate desirable seed germination. The stand will be monitored for seedling establishment over the next 3 years. As there is such a dense understory of interfering plants, it is expected that the additional sunlight will stimulate growth of these undesirables as well. If the fern and grass cover, as well as stump sprouting witch-hazel and birch, are impeding desirable seedling establishment, the harvest will be followed-up with a foliar spray treatment of an appropriate herbicide to remove the interfering plants. Following treatment, the stand will be monitored for seedling establishment over the next 5-10 years. As seedlings become established, additional cultural work will be prescribed as necessary to bring this new seedling crop along.

Deer impacts will also be addressed in the contract. Harvest will be managed to retain high tops and lops from cut trees to offer some deer browse protection to developing seedlings. All wetlands and streams will be buffered according to the guidelines within the PGSF Sustainable Forest Management Plan.

Compartment 16 Stand 12 FY-19




 Proposed Area

Stand Acres.....31
 Harvest Acres.....21
 Forest Type.....Mixed Oak
 Basal Area.....123
 BA AGS.....102
 Stocking.....75%
 Site Index.....60 for Red Oak
 Composition.....Red Maple 67%
 Red Oak 13%
 White Oak 7%

HCVF Components

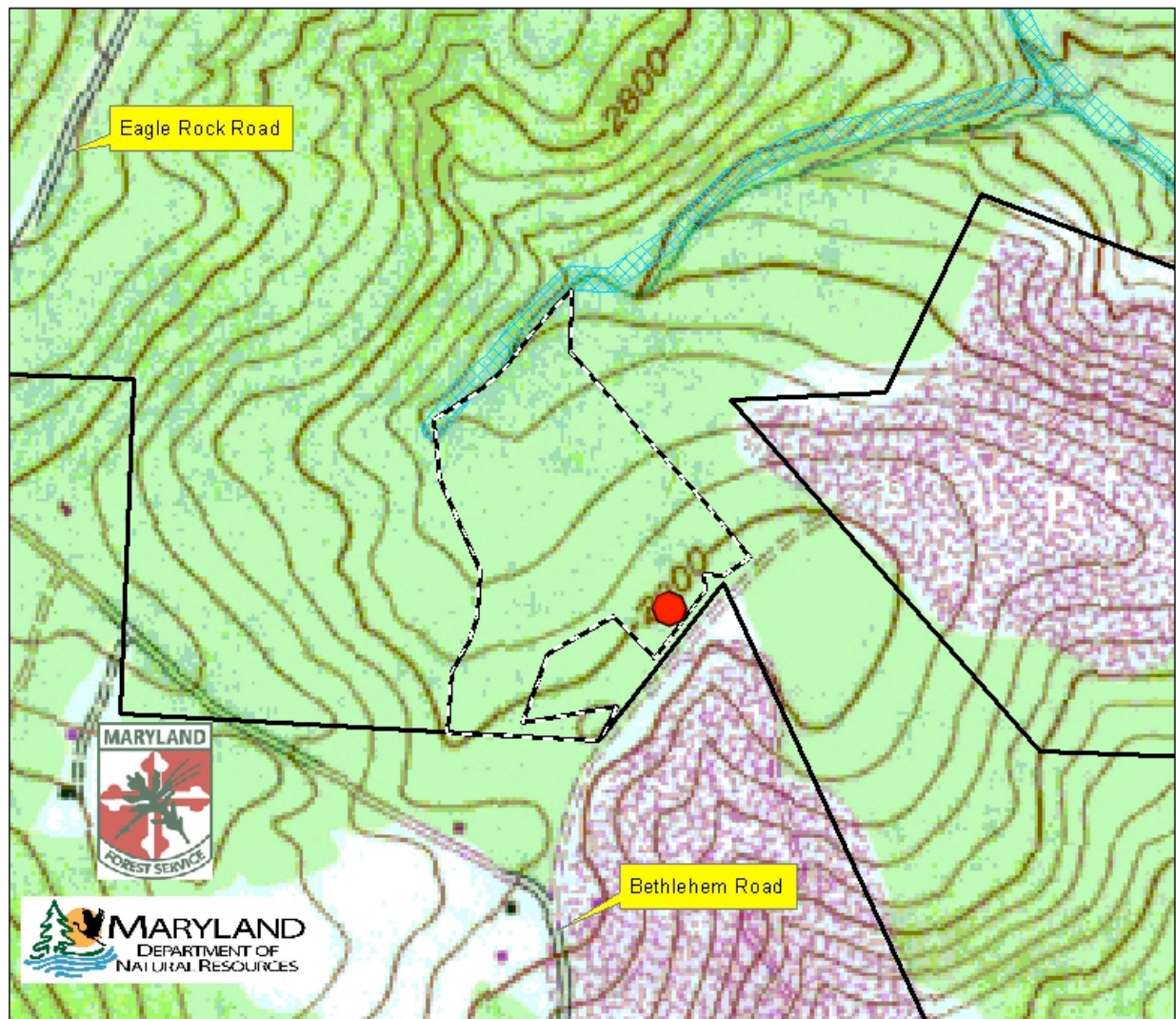
-  Wildlands
-  Ecologically Significant Area
-  Old Growth w/ 300' Buffer
-  Old Growth Management Unit
-  Wetland of State Concern w/ 100' Buffer
-  Streams w/ 50' Buffer

0 215 430 860 1,290 1,720
 Feet

 79°17'37.87"W 39°23'5.316"N



Compartment 16 Stand 12 FY-19



Proposed Area

Stand Acres.....31
 Harvest Acres.....21
 Forest Type.....Mixed Oak
 Basal Area.....123
 BA AGS.....102
 Stocking.....75%
 Site Index.....60 for Red Oak
 Composition.....Red Maple 67%
 Red Oak 13%
 White Oak 7%

HCVF Components

- Wildlands
- Ecologically Significant Area
- Old Growth w/300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

0 215 430 860 1,290 1,720 Feet

79°17'37.87"W 39°23'5.316"N



Description/Resource Impact Assessment

Location: This area is located on the north side of the Wallman Road, approximately 0.31 miles northeast of the junction of the Wallman and Laurel Run Roads, within Compartment 23, Stand 6 of the Potomac State Forest. This stand falls within an 'Ecologically Significant Area' with a history of containing critical habitat for a 'State Endangered Species'. The species was last recorded as using the ESA in 2006 and was first found in 2001.

Forest Community Type and Condition: This 17-acre site contains a 85 year old White Pine plantation that had been thinned in 1997. The stand is comprised of sawtimber sized White Pine (81% BA) with Red Maple sapling and small poletimber understory. There is a couple acre inclusion of Red Pine in the western most corner of the stand. Stand analysis shows this previously thinned stand is over stocked at 129% relative density and 191 sq.ft. BA/ac. This can be a bit misleading in a plantation setting where a developing hardwood understory is creating a 2-aged stand. Viewing the pine component with plantation stocking levels, the relative density of the pine is much lower at 70%, and 154 sq. ft. of BA/ac. There is an appreciable amount of desirable young white pine seedlings and saplings (1-15 ft. tall) that have become established in the openings created during the thinning; 40% of the site contains some white pine seedling and saplings (approx. 847/ac.) that would benefit from a release from competition.

Interfering Elements: As this stand is not being viewed for regeneration, the various interfering elements are of little consequence at this time. There were no non-native invasive species (NNIS) observed in the stand inventory.

Historic Conditions: Plantation records, show this stand to have been established 85 years ago; and the stand was thinned in in 1997. No evidence of recent fire activity, nor significant insect pest activity was observed during the recon.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the proposed silvicultural prescription.

Habitats and Species of Management Concern: Like all of the conifer stands in the compartment, the stand is associated with several conifer plantations which had prompted the designation of the surrounding HCVF area as an ESA. The conifer plantations are known to have supported critical habitat for a State listed RT&E species. This particular plantation/stand has supported suitable habitat conditions for the species of concern. At this time, the Forest Manager knows of no critical habitats or species of management concern on the site, or that would be impacted by the silvicultural prescription.

Water Resources: This ridge top stand drains northward toward Laurel Run, a headwater tributary of the greater Potomac River Watershed. There are no mapped streams or wetlands located within the stand, and any proposed silvicultural treatments will be outside of all HCVF stream buffer areas. No heavy equipment will be permitted within the protective riparian buffers of the streams and any

associated wetlands per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

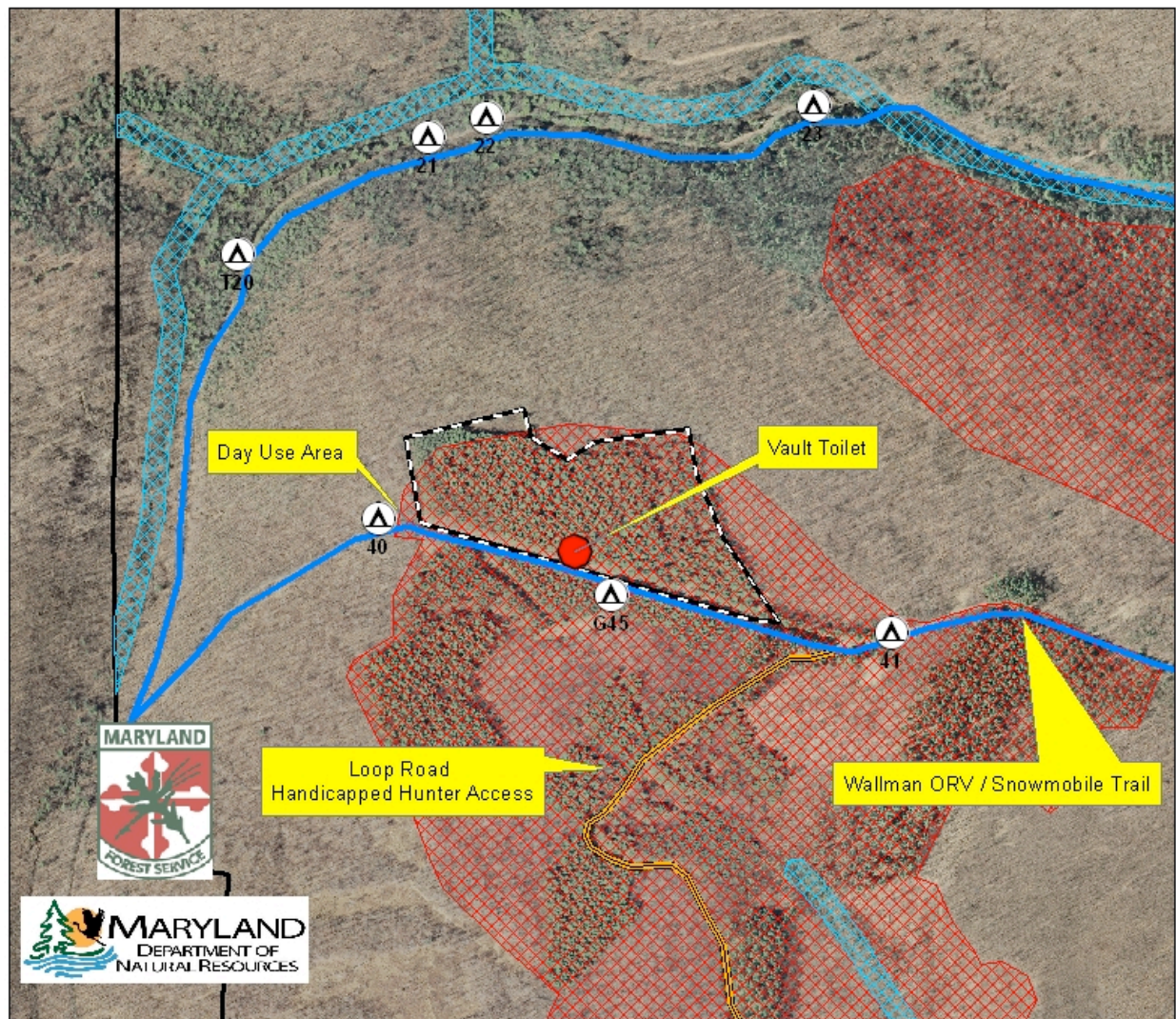
Recreation Resources: The stand fronts the Wallman Road and ORV Trail. Other developed recreation features also include: 3 campsites, a Day-Use picnic area and a vault toilet/comfort station and group campsite which are located near this stand.

Soil Resources: Underlying soils include: 'Gilpin chanery silt loams'. These soils are generally moderately deep and well drained soils, with only slight equipment limits where slopes are present. Degree of slope ranges from 0-10% throughout the site. The site has very good productivity for woodland management, with a site index of 75-85 for upland oaks.


Management and Silvicultural Recommendations

One of the primary management goals for the ESA associated with this stand, is the management and retention of a healthy, critical conifer component in the ESA. To that end, the planned silvicultural treatment for this overstocked stand is a 'single tree selection harvest'. The objective of this harvest is to reduce the stocking level to approximately 60% relative density at 90-100 Sq.Ft BA/ac. of the overstory pine component. Note: current local markets do not support the harvest of conifers greater than 22" at the butt end. This imposes a market driven, economic maturity tied to a merchantable diameter limit of 20" DBH. While harvesting this stand, trees that have reached 19" DBH shall be targeted for harvest as they will likely become unmerchantable before the stand is in need of another thinning /harvest. This harvest will yield approximately 6,000 Bd. Ft./ac. This practice will remove much of the unacceptable and over-mature, merchantable growing stock providing optimal growing conditions for the remaining trees while creating light gaps releasing the existing white pine seedlings and saplings to continue to develop and begin to transition this even-aged plantation into a more naturalized, uneven-aged White-pine/hardwood stand.

Compartment 23 Stand 6 HCVF




Stand Acres.....17
 Harvest Acres.....17
 Forest Type.....Plantation
 Basal Area.....191
 BA AGS.....177
 Stocking.....129%
 Site Index.....60 for Red Oak
 Composition.....White Pine 81%
 Red Maple 7%

 Proposed Area

HCVF Components

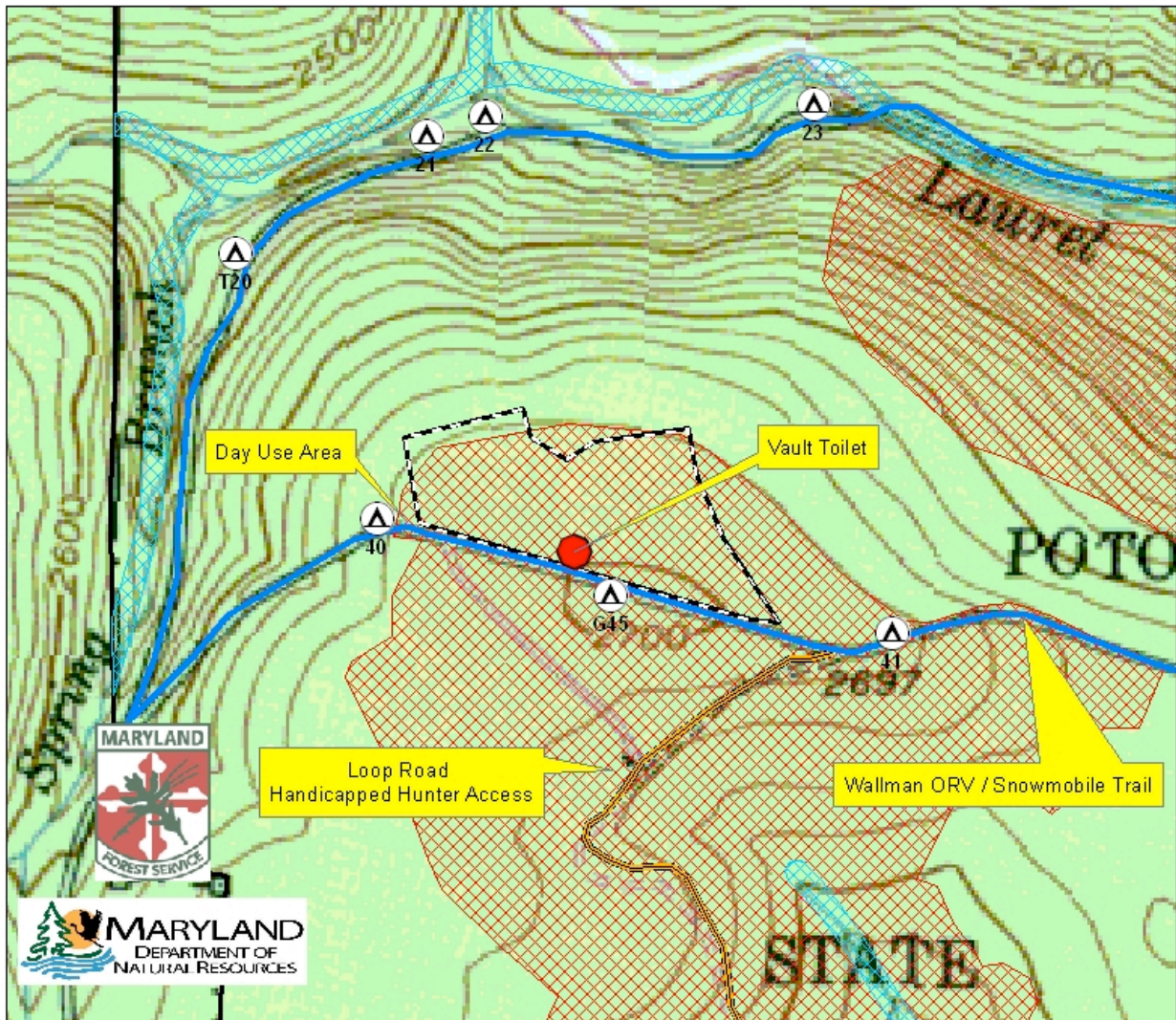
-  Wildlands
-  Ecologically Significant Area
-  Old Growth w/300' Buffer
-  Old Growth Management Unit
-  Wetland of State Concern w/ 100' Buffer
-  Streams w/ 50' Buffer

 79°17'20.828"W 39°20'34.724"N

0 215 430 860 1,290 1,720
 Feet



Compartment 23 Stand 6 HCVF



Stand Acres.....17
 Harvest Acres.....17
 Forest Type.....Plantation
 Basal Area.....191
 BA AGS.....177
 Stocking.....129%
 Site Index.....60 for Red Oak
 Composition.....White Pine 81%
 Red Maple 7%

Proposed Area

HCVF Components

- Wildlands
- Ecologically Significant Area
- Old Growth w/ 300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

79°17'20.828"W 39°20'34.724"N

0 215 430 860 1,290 1,720
 Feet



Description/Resource Impact Assessment

Location: This area is located in the Wallman Complex in Compartment 25, Stand 6 of the Potomac State Forest. The stand fronts the south side of the Wallman Road approximately .25 miles east of the junction of the Wallman Road and Loop Road Snowmobile Trail. This stand falls within an 'Ecologically Significant Area' with a history of containing critical habitat for a 'State Endangered Species'. The species was last recorded as using the ESA in 2006 and was first found in 2001.

Forest Community Type and Condition: This 5-acre site contains a mixed pine/hardwood stand made up of what would have been a failing Red Pine plantation, with a prominent Red Maple understory. The overstory contains 85 year old non-native Red Pine sawtimber (48% of the BA) with a mid canopy of native hardwood poletimber, primarily Red Maple (33% of the BA). This stand seems to have developed as a result of poor seedling survival at initial planting resulting in an under stocked plantation that began to revert to native hardwoods. Later insect infestations have caused additional mortality, further under stocking of the pine. Overall condition of the stand is poor. The average live crown ratio of the pine is a weak 16-20% resulting in a tree that is not able to " feed itself " putting these trees in a state of decline. Despite being in the dominant canopy position, the Red Pine incremental growth is only 22 rings per inch (down from 14 RPI.) This mixed stand is presently overstocked at 118% relative density containing 180 sq.ft. BA/acre; of this, Red Pine accounts for 87 sq.ft.BA; in its poor condition, it is considered unacceptable growing stock. Therefore, there is insufficient acceptable growing stock to fully stock this stand. Existing regeneration is limited, with only 30% stocked plots.

Interfering Elements: Deer browse pressure in this area is estimated to be moderate to high and must be addressed when considering regeneration efforts on this site. Interfering understory plant competition is sufficient to cause significant interference with regeneration efforts. Problematic levels of fern and grass are found on 90% of site. Tall woody interference occupies 70% of the stand, primarily in the form of Black Birch and American Beech saplings. Non-native invasive species (NNIS) were not observed in the stand though Japanese stilt grass is found along much of the Wallman Road. Insect pest populations seem to have stabilized, though their initial impacts have left a considerably damaged stand behind.

Historic Conditions: State Forest records show no history of harvest since the State's establishment/planting. This stand seems to have developed as a result of poor seedling survival at initial planting, resulting in an under stocked plantation that began to revert to native hardwoods. Later insect infestations seem to have caused additional mortality and further under stocking of the pine. There is no evidence of insect or disease presently in the stand, though the stressed condition of the Red Pine predisposes it to both. No evidence of recent fire activity was observed during the recon.

Rare, Threatened and Endangered Species: At this time, the Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the silvicultural prescription

Concern: Habitats and Species of Management Concern: The stand is associated with several conifer plantations which had prompted the designation of the surrounding HCVF area as an ESA. The conifer plantations are known to have supported critical habitat for a State listed RT&E species. This particular plantation/stand does not seem to support suitable habitat conditions for the species of concern. At this time, the Forest Manager knows of no critical habitats or species of management concern on the site, or that would be impacted by the silvicultural prescription.

Water Resources: This ridge top stand drains southward toward an unnamed tributary of Bradshaw Run, a small headwater tributary of the greater Potomac River Watershed. The proposed silvicultural treatments will be outside of all HCVF stream buffer areas. No heavy equipment will be permitted within the protective riparian buffers of the streams and any associated wetlands per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

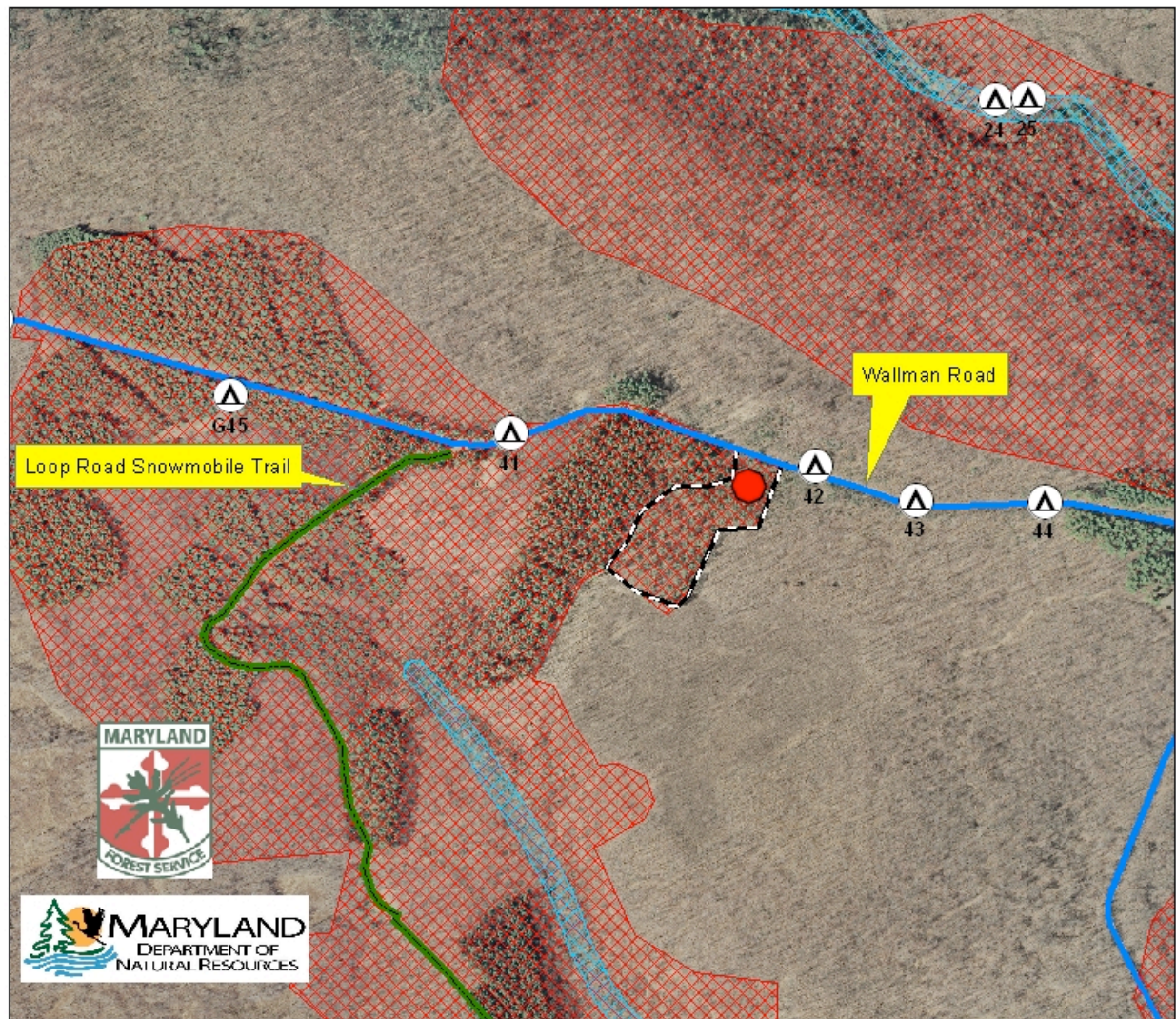
Recreation Resources: There are no developed recreation facilities immediately adjacent to the stand. The nearest campsite is approx. 160 ft. to the east.

Soil Resources: Underlying soils include: 'Gilpin chanery silt loams'. These soils are generally moderately deep and well drained soils, with only slight equipment limits where slopes are present. Degree of slope ranges from 0-10% throughout the site. The site has very good productivity for woodland management, with a site index of 75-85 for upland oaks.

Management and Silvicultural Recommendations

The planned silvicultural treatment for this site is to regenerate the stand using the clear-cut method with the objective of converting this stand to native hardwoods. Were available, 2-4 cavity or den trees per acre will be retained as single tree retention; all other trees down to 2" diameter be cut to facilitate stump sprouting from the existing hardwoods. As adequate advanced regeneration is found on only 30% of the site, stump sprouting will provide the basis of a replacement hardwood stand on this site. As deer impact in this area is moderate to high, the timber contract will call for the retention of "high tops and lops" to offer some protection to developing stump sprouts and seedlings further assuring a fully stocked hardwood stand in the future. This regeneration harvest will provide early succession habitat conditions within the ESA, providing habitat elements utilized by the RT&E species for which the ESA is being managed for.

Compartment 25 Stand 6 HCVF FY-19



Stand Acres.....	5
Harvest Acres.....	5
Forest Type.....	Plantation
Basal Area.....	180
BA AGS.....	93
Stocking.....	118%
Site Index.....	60 for Red Oak
Composition.....	Red Pine 48%
	Red Maple 33%

0 215 430 860 1,290 1,720 Feet

Proposed Area

HCVF Components

- Wildlands
- Ecologically Significant Area
- Old Growth w/ 300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

79°16'49.679"W 39°20'29.537"N



Compartment 25 Stand 6 HCVF FY-19




Stand Acres.....	5
Harvest Acres.....	5
Forest Type.....	Plantation
Basal Area.....	180
BA AGS.....	93
Stocking.....	118%
Site Index.....	60 for Red Oak
Composition.....	Red Pine 48%
	Red Maple 33%

 Proposed Area

HCVF Components

-  Wildlands
-  Ecologically Significant Area
-  Old Growth w/ 300' Buffer
-  Old Growth Management Unit
-  Wetland of State Concern w/ 100' Buffer
-  Streams w/ 50' Buffer

0 215 430 860 1,290 1,720 Feet

 79°16'49.679"W 39°20'29.537"N



Description/Resource Impact Assessment

Location: This area is located on the east side of the Loop Road Snowmobile Trail, approximately 0.8 miles south of the junction of the Loop Road Snowmobile Trail and the Wallman Road, within Compartment #25, Stand 7 of the Potomac State Forest. This stand falls within an 'Ecologically Significant Area' with a history of containing critical habitat for a 'State Endangered Species'. The species was last recorded as using the ESA in 2006 and was first found in 2001.

Forest Community Type and Condition: This 7-acre site contains an 85 year old White Pine plantation. The stand is comprised of sawtimber sized White Pine (84% BA) with a light mixed hardwood, poletimber understory. This unmanaged stand is well over stocked at 143% relative density and 245 sq.ft. BA/ac. Typical of such heavily overstocked, unmanaged, conifer stands, there is little or no established desirable regeneration present.

Interfering Elements: As this stand is not being viewed for regeneration, the various interfering elements are of little consequence at this time. The only non-native invasive species (NNIS) observed in the stand inventory was one occurrence of Japanese Barberry.

Historic Conditions: Plantation records show this stand to have been established 85 years ago; no further management has taken place since then. No evidence of recent fire activity, nor significant insect pest activity was observed during the recon.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the proposed silvicultural prescription.

Habitats and Species of Management Concern: The stand is associated with several conifer plantations which had prompted the designation of the surrounding HCVF area as an ESA. The conifer plantations are known to have supported critical habitat for a State listed RT&E species. This particular plantation/stand has supported suitable habitat conditions for the species of concern. At this time, the Forest Manager knows of no critical habitats or species of management concern on the site, or that would be impacted by the silvicultural prescription.

Water Resources: This ridge top stand drains eastward toward Bradshaw Run, a small headwater tributary of the greater Potomac River Watershed. The proposed silvicultural treatments will be outside of all HCVF stream buffer areas. No heavy equipment will be permitted within the protective riparian buffers of the streams and any associated wetlands per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

Recreation Resources: The stand fronts the state forest access road that serves as the Loop Road Snowmobile Trail; with the front 0.6 mi. also serving as a Handicapped Hunter Access Road.

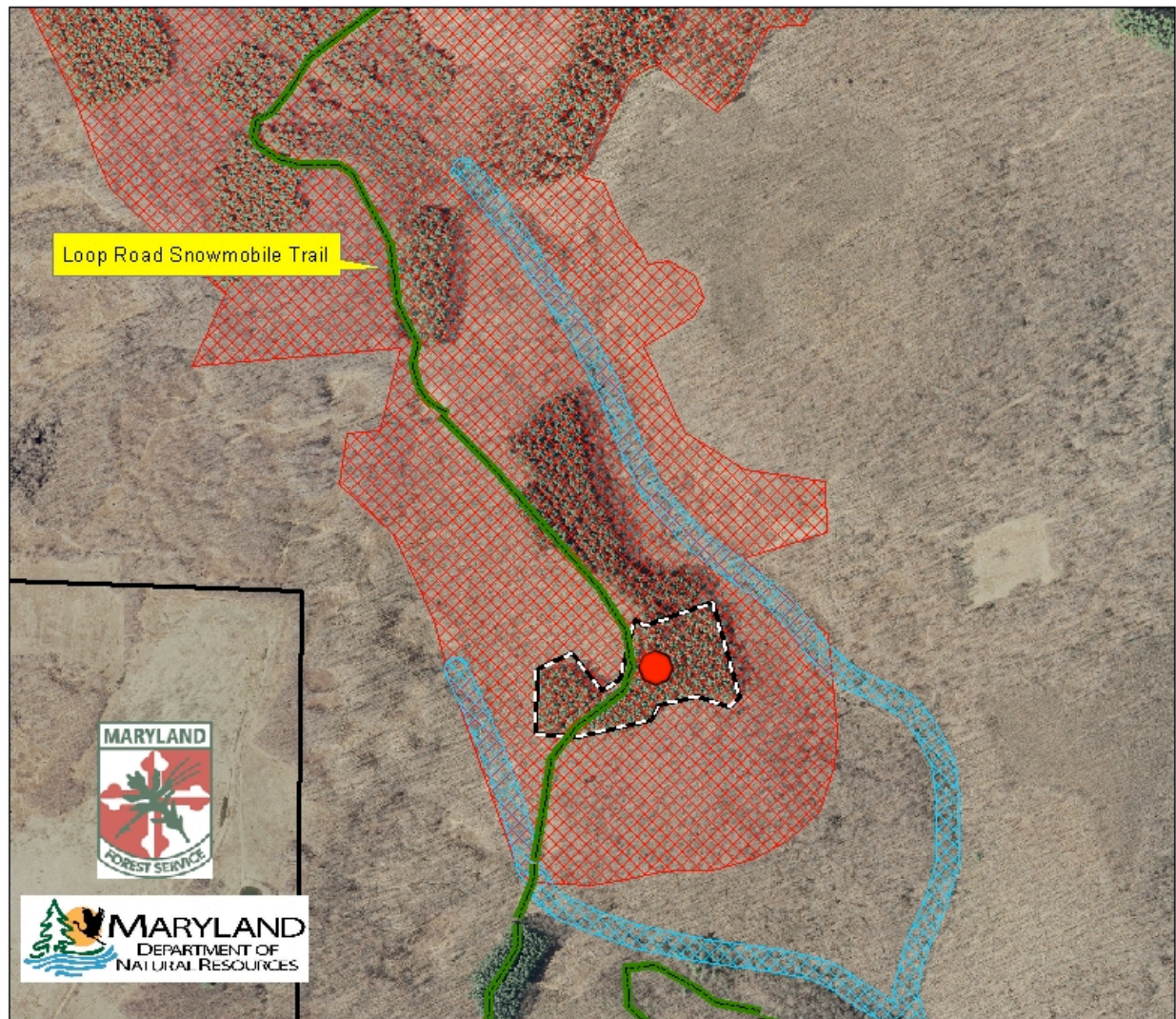
Soil Resources: Underlying soils include: 'Gilpin chanery silt loams'. These soils are generally moderately deep and well drained soils, with only slight equipment limits where slopes are present.

Degree of slope ranges from 0-10% throughout the site. The site has very good productivity for woodland management, with a site index of 75-85 for upland oaks.

Management and Silvicultural Recommendations


One of the primary management goals for the ESA associated with this stand, is the management and retention of a healthy, critical conifer component in the ESA. To that end, the planned silvicultural treatment for this severely overstocked stand is a commercial thinning. The objective of this thinning is to reduce the stocking level to approximately 60% relative density at 160 sq. ft. BA/ac. This will be done by combining a 3rd row thinning and free thinning throughout this stand. Note: current local markets do not support the harvest of conifers greater than 22" at the butt end. This imposes a market driven, economic maturity tied to a merchantable diameter limit of 20" DBH. While thinning this stand, trees that have reached 19" DBH shall be targeted for harvest as they will likely become unmerchantable before the stand is in need of another thinning/harvest. The thinning will remove approx. 30sq. ft. BA of White Pine from the 18"-22" diameter class, with the remaining 50 sq.ft. BA coming evenly across the diameter distribution. This thinning will yield approximately 5,050 – 6,500 Bd Ft. This practice will remove nearly all the unacceptable and over-mature, merchantable growing stock providing optimal growing conditions for the remaining trees thereby improving the health and vigor of this important conifer stand.

Compartment 25 Stand 7 HCVF FY-19




Stand Acres.....	7
Harvest Acres.....	7
Forest Type.....	Plantation
Basal Area.....	245
BA AGS.....	205
Stocking.....	143%
Site Index.....	60 for Red Oak
Composition.....	White Pine 84%
	Black Cherry 10%

0 215 430 860 1,290 1,720 Feet

 Proposed Area

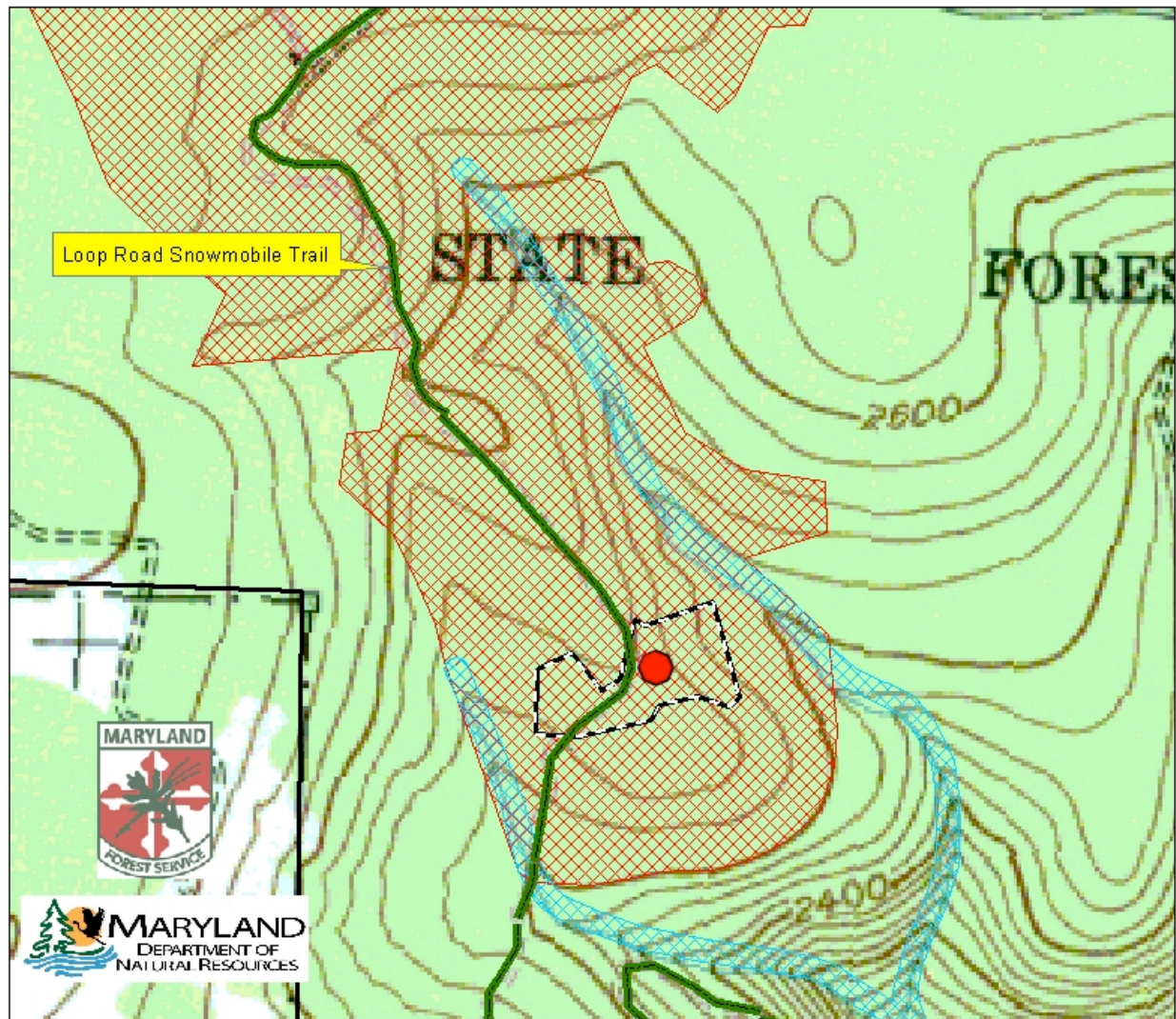
HCVF Components

-  Wildlands
-  Ecologically Significant Area
-  Old Growth w/ 300' Buffer
-  Old Growth Management Unit
-  Wetland of State Concern w/ 100' Buffer
-  Streams w/ 50' Buffer

 79°17'0.461"W 39°20'4.873"N



Compartment 25 Stand 7 HCVF FY-19



Stand Acres.....	7
Harvest Acres.....	7
Forest Type.....	Plantation
Basal Area.....	245
BA AGS.....	205
Stocking.....	143%
Site Index.....	60 for Red Oak
Composition.....	White Pine 84%
	Black Cherry 10%

0 215 430 860 1,290 1,720 Feet

Proposed Area

HCVF Components

- Wildlands
- Ecologically Significant Area
- Old Growth w/ 300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

79°17'0.461"W 39°20'4.873"N



Description/Resource Impact Assessment

Location: This area is located on the east side of the Loop Road Snowmobile Trail, approximately 0.8 miles south of the junction of the Loop Road Snowmobile Trail and the Wallman Road, within Compartment 25, Stand 13 of the Potomac State Forest. This stand falls within an 'Ecologically Significant Area' with a history of containing critical habitat for a 'State Endangered Species'. The species was last recorded as using the ESA in 2006 and was first found in 2001.

Forest Community Type and Condition: This 7-acre site contains an 85 year old Norway Spruce plantation. The stand is comprised of sawtimber sized Norway Spruce (97% BA) with a few Cherry poles in the understory. This unmanaged stand is well overstocked at 135% relative density and 212 sq.ft. BA/ac. Typical of such heavily overstocked, unmanaged, conifer stands, there is little or no established desirable regeneration present.

Interfering Elements: As this stand is not being viewed for regeneration, the various interfering elements are of little consequence at this time. There were no non-native invasive species (NNIS) observed in the stand inventory.

Historic Conditions: Plantation records show this stand to have been established 85 years ago; no further management has taken place since then. No evidence of recent fire activity, nor significant insect pest activity was observed during the recon.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the proposed silvicultural prescription.

Habitats and Species of Management Concern: The stand is associated with several conifer plantations which had prompted the designation of the surrounding HCVF area as an ESA. The conifer plantations are known to have supported critical habitat for a State listed RT&E species. This particular plantation/stand has supported suitable habitat conditions for the species of concern. At this time, the Forest Manager knows of no critical habitats or species of management concern on the site, or that would be impacted by the silvicultural prescription.

Water Resources: This ridge top stand drains eastward toward Bradshaw Run, a small headwater tributary of the greater Potomac River Watershed. The proposed silvicultural treatments will be outside of all HCVF stream buffer areas. No heavy equipment will be permitted within the protective riparian buffers of the streams and any associated wetlands per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

Recreation Resources: The stand fronts the state forest access road that serves as the Loop Road Snowmobile Trail; with the front 0.6 mi. also serving as a Handicapped Hunter Access Road.

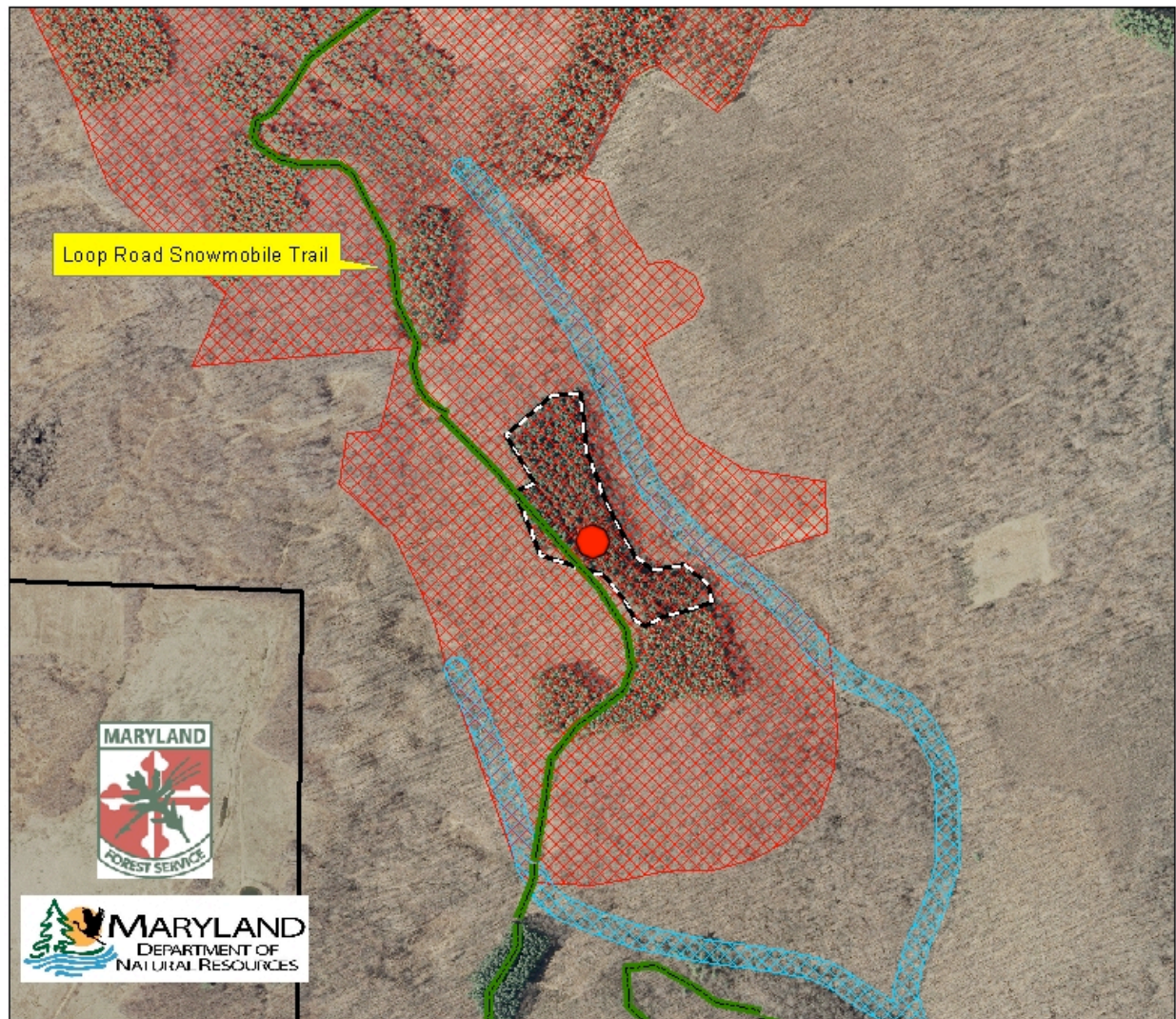
Soil Resources: Underlying soils include: 'Gilpin chanery silt loams'. These soils are generally moderately deep and well drained soils, with only slight equipment limits where slopes are present.

Degree of slope ranges from 0-10% throughout the site. The site has very good productivity for woodland management, with a site index of 75-85 for upland oaks.

Management and Silvicultural Recommendations

One of the primary management goals for the ESA associated with this stand, is the management and retention of a healthy, critical conifer component in the ESA. To that end, the planned silvicultural treatment for this severely overstocked stand is a commercial thinning. The objective of this thinning is to reduce the stocking level to approximately 60-65% relative density at 140-160 sq.ft/ BA. This will be done by combining a 3rd row thinning and free thinning throughout this stand. Note: current local markets do not support the harvest of conifers greater than 22" at the butt end. This imposes a market driven, economic maturity tied to a merchantable diameter limit of 20" DBH. While thinning this stand, trees that have reached 19" DBH shall be targeted for harvest as they will likely become unmerchantable before the stand is in need of another thinning/harvest. This thinning will yield approximately 4,000 Bd FT/ac. with 2,500 BD ft. from the over-mature trees, and another 1,500 Bd. Ft. across the remaining stand. This practice will remove nearly all the unacceptable and over-mature, merchantable growing stock providing optimal growing conditions for the remaining trees thereby improving the health and vigor of this important conifer stand.

Compartment 25 Stand 13 HCVF FY-19



Stand Acres.....	7
Harvest Acres.....	7
Forest Type.....	Plantation
Basal Area.....	212
BA AGS.....	212
Stocking.....	135%
Site Index.....	60 for Red Oak
Composition.....	Norway Spruce 97%
	Black Cherry 3%

Proposed Area

HCVF Components

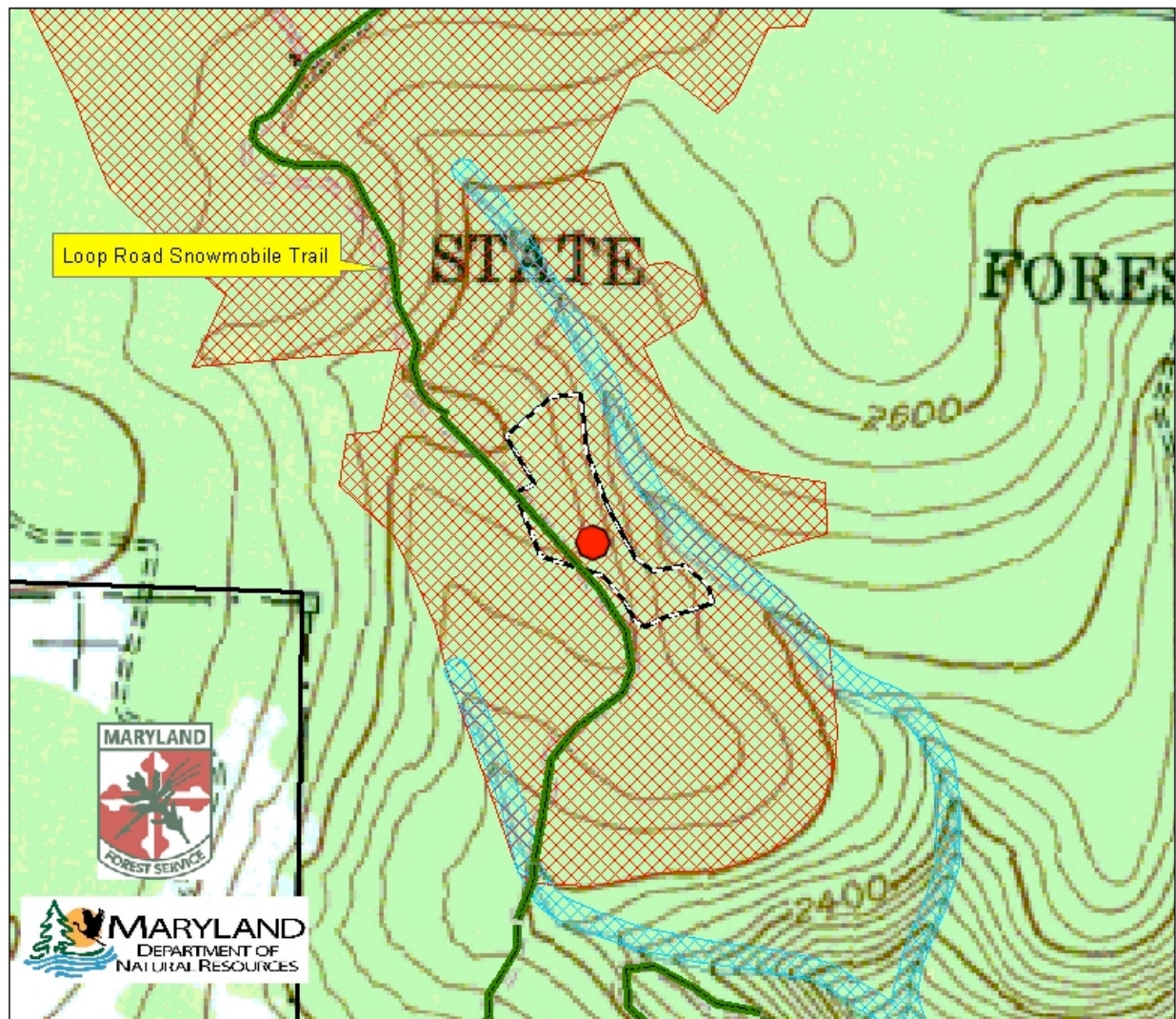
- Wildlands
- Ecologically Significant Area
- Old Growth w/ 300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer



79°17'0.461"W 39°20'4.873"N



Compartment 25 Stand 13 HCVF FY-19



Stand Acres.....7
 Harvest Acres.....7
 Forest Type.....Plantation
 Basal Area.....212
 BA AGS.....212
 Stocking.....135%
 Site Index.....60 for Red Oak
 Composition.....Norway Spruce 97%
 Black Cherry 3%

Proposed Area

HCVF Components

- Wildlands
- Ecologically Significant Area
- Old Growth w/ 300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

0 215 430 860 1,290 1,720 Feet

79°17'0.461"W 39°20'4.873"N



Description/Resource Impact Assessment

Location: This 11-acre area is located on the east side of Herrington Manor Road at the 'Handicapped Hunter Access Road', 0.6 mile north of Herrington Manor State Park entrance, within Compartment #33 of the Garrett State Forest. The site fronts on the Herrington Manor Road and backs to the State Forests snowmobile trail.

Forest Community Type and Condition: This 11-acre stand contains a mature, 95 year old mixed oak stand. The overstory is made up primarily of White Oak (64%), Red Maple (18%) and Black Cherry (13%). This stand is under stocked at 44% relative density and 56 sq.ft. BA/acre. The stand was initially thinned as a TSI practice in 1996, along with the adjoining Alleghany Hardwoods stand to the northeast, and again in 2012 to stimulate seedling development. During the harvest in 2012, the stand suffered considerable damage as a result of the October snow storm event / 'Super Storm Sandy'. Additional storm damaged trees were cut during this harvest to both salvage the storm damaged timber and, more importantly, to stimulate stump sprouts from what would otherwise be unmerchantable trees if left for the future. The resulting stand was left in an under stocked condition. The initial 2012 harvest was expected to provide suitable conditions for seedling development allowing new and established seedlings to advance to the next cohort of competitive seedlings that would fully stock the next stand. However, the addition of the storm salvage simultaneously stimulated the aggressive growth of the interfering, low woody vegetation (primarily Dewberry) which severely restricts further seedling development. Presently 31% of the stand is stocked with competitive oak seedlings (a very uncommon condition on the forest), and there is an additional 13% stocked with other desirable seedlings. Together, these alone will not provide for a fully stocked stand. However, with the addition of stump sprouts (that are able to push through the dewberry) and by keeping deer off the seedlings, the stand can be fully stocked again.

Interfering Elements: Deer browse pressure in this area is estimated to be high and must be addressed when considering regeneration efforts on this site. Interfering plant competition is extremely high with over 95% of the stand having problematic low woody interference, (mainly Dewberry). Fern and grass as well as tall woody interference are minimal. Non-native invasive species (NNIS) observed in the stand inventory include the occasional Japanese barberry.

Historic Conditions: This stand has been sprayed for Gypsy Moth Suppression in 1989, 1990, and 1991 indicating a significant investment in managing this oak forest. The stand was entered in 1996 for a Timber Stand Improvement practice, and again in 2012 with a combination shelterwood thinning/salvage harvest. There is no forest pest or significant disease present, and no evidence of recent fire activity was observed during the recon.

Rare, Threatened and Endangered Species: The ridge top stand sits upslope of HCVF (High Conservation Value Forest) though only approx 2 acres drains toward this HCVF. This HCVF includes an Ecologically Significant Area known as the Dunkard Lick ESA. The area provides protection for 'Wetlands of Special State Concern', a number of threatened and endangered plants and animals, and a globally rare amphipod. The ESA also serves as a protective deer wintering area.

The Forest Manager knows of no rare, threatened or endangered species in the stand or impacted by the silvicultural prescription.

Habitats and Species of Management Concern: There are no known habitats or species of management concern on this site.

Water Resources: This ridge top site drains west to Murley Run and is part of the Youghiogheny River Watershed. The proposed silvicultural treatments will be outside of all required protective riparian buffers of the wetlands and streams.

Recreation Resources: The stand fronts state forest access roads that serve as both a Handicapped Hunter Access Trail and part of the Snaggy Mountain Snowmobile Trail.

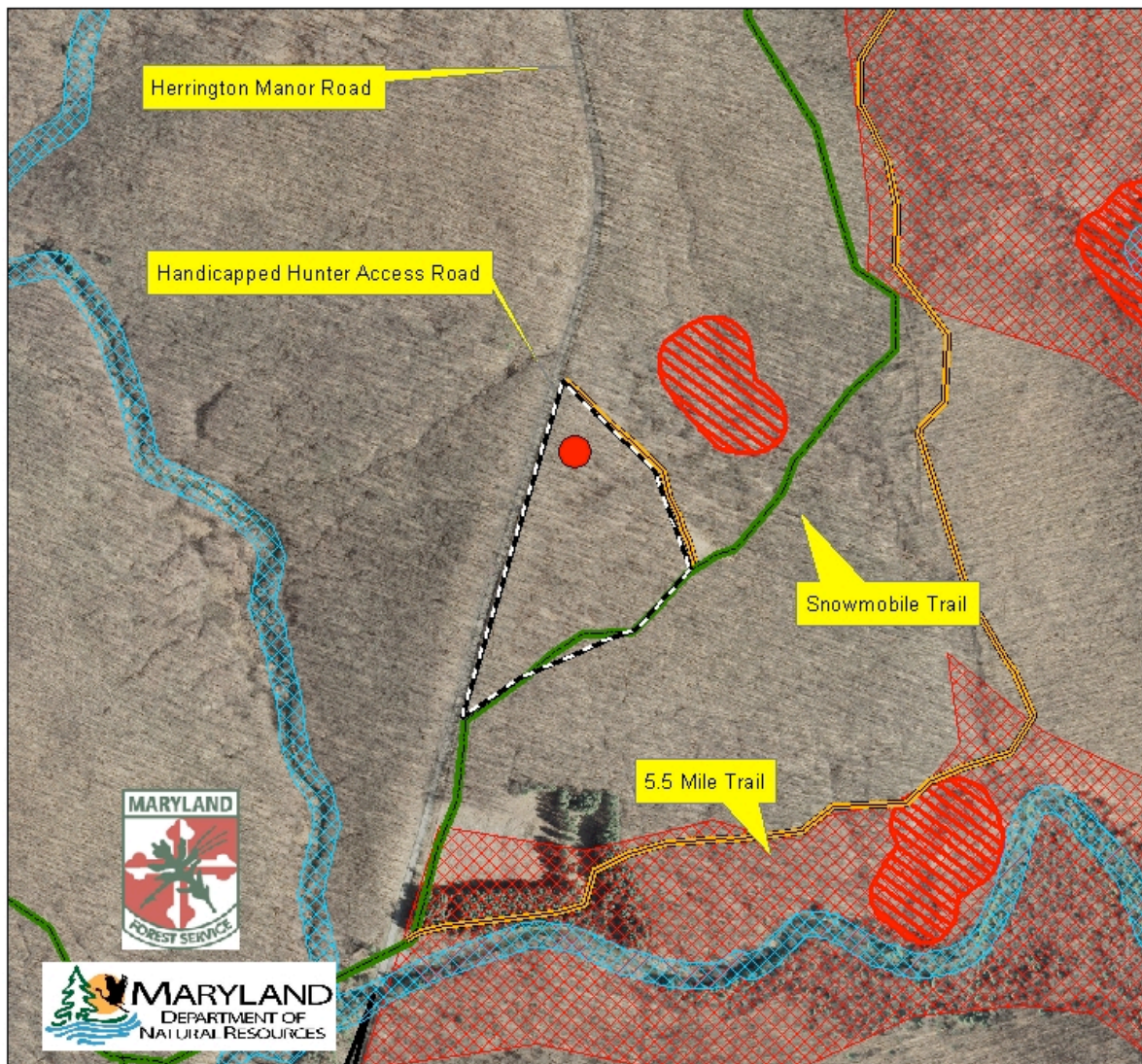
Soil Resources: Underlying soils include: 'Dekalb and Gilpin very stony loams' and 'Stony land'. These soils are moderately deep and well drained and some poorly drained soils, with moderate equipment limits because water table is close to the soil surface in winter and early in spring. Degree of slope ranges from 0-25% throughout the site. The site has fair to good productivity for woodland management, with a site index of 60 for White oak in the upper slopes.

Management and Silvicultural Recommendations:

The proposed silvicultural treatment for this site is to regenerate using a liberation/clear-cut method. To retain important wildlife habitat elements, where available, 2-4 live cavity trees will be retained per acre. This practice will "liberate" the existing desirable competitive regeneration from overhead competition allowing it to fully develop as the next stand. All other trees greater than 2 inches DBH shall be cut in order to contribute desirable stump sprout regeneration toward the overall stocking of the new stand. As deer browse pressure is considered to be moderate to high, the timber contract will call for the retention of high tops and lops to provide some measure of deer protection to the developing seedlings and sprouts. The visual roadside buffer will be harvested while retaining 8-12 trees per acre within 100ft. of the county road; providing a softening of the clear-cut edge as it transitions back from the road.

For public safety, as well as safety of the logging contractor, during the harvest the handicapped hunter access road and adjoining section of the snowmobile trail will be posted as closed. Visitors will be directed to other trails available throughout the forest.

Compartment 33 Stand 6 FY-19



Stand Acres.....	11
Harvest Acres.....	11
Forest Type.....	Mixed Oak
Basal Area.....	56
BA AGS.....	43
Stocking.....	44%
Site Index.....	60 for White Oak
Composition.....	White Oak 64%
	Red Maple 18%
	Black Cherry 13%

0 200 400 800 1,200 1,600 Feet

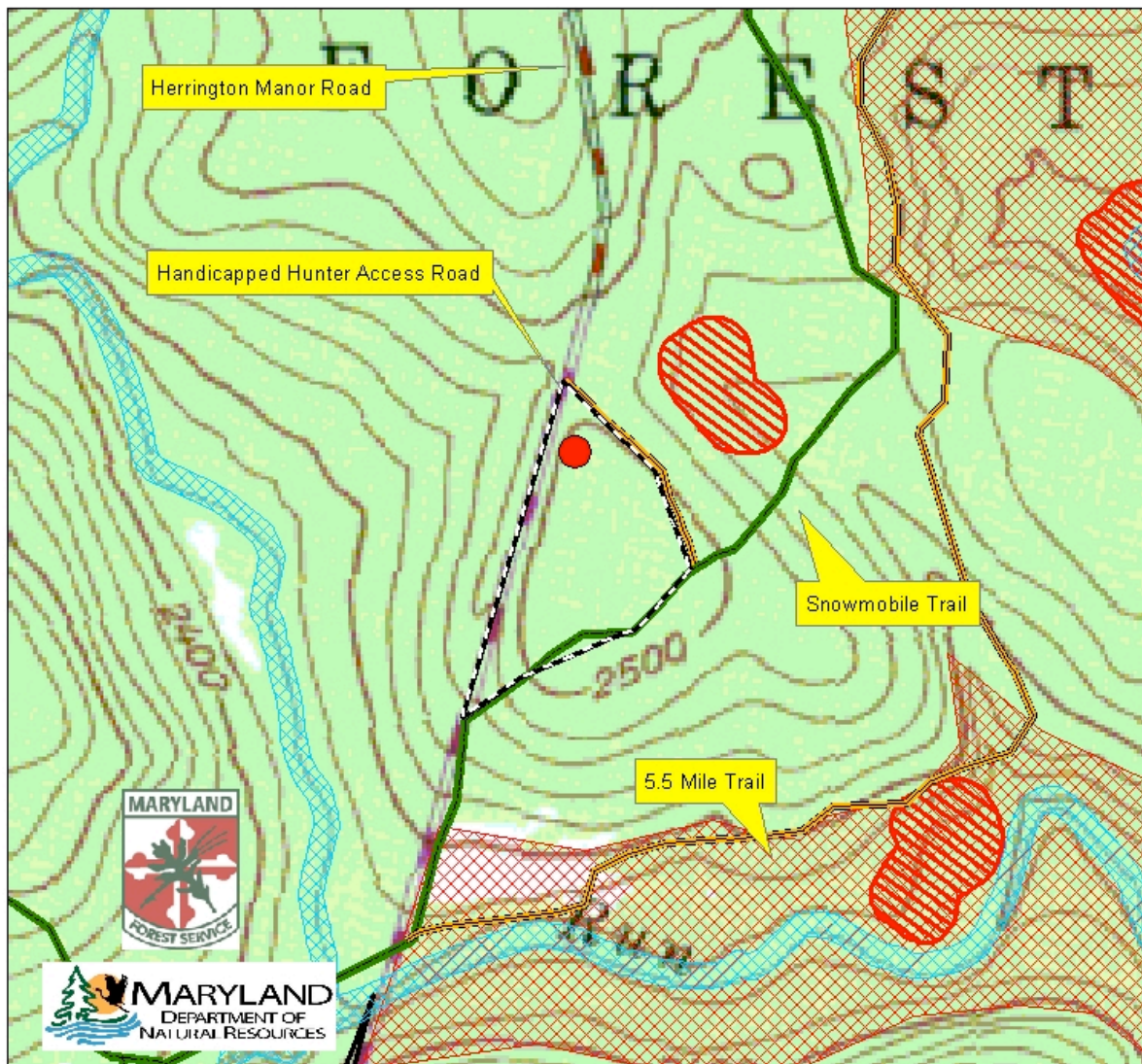
Proposed Area

- Wildlands
- Ecologically Significant Area
- Old Growth w/ 300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

79°26'29.6"W 39°28'11.796"N



Compartment 33 Stand 6 FY-19



Stand Acres.....	11
Harvest Acres.....	11
Forest Type.....	Mixed Oak
Basal Area.....	56
BA AGS.....	43
Stocking.....	44%
Site Index.....	60 for White Oak
Composition.....	White Oak 64%
	Red Maple 18%
	Black Cherry 13%

0 200 400 800 1,200 1,600 Feet

	Proposed Area
	Wildlands
	Ecologically Significant Area
	Old Growth w/ 300' Buffer
	Old Growth Management Unit
	Wetland of State Concern w/ 100' Buffer
	Streams w/ 50' Buffer

79°26'29.6"W 39°28'11.796"N



Description/Resource Impact Assessment

Location: This stand is located on the west side of the Herrington Manor Road, 0.6 miles north of the entrance to Herrington Manor State Park, within Compartment 35, Stand 6 of the Garrett State Forest.

Forest Community Type and Condition: This 19-acre site contains a mature (96 year old), large sawtimber size, Allegheny Hardwoods stand with an average merchantable diameter of 17.3 inches. The overstory is made up primarily of Black Cherry (45%), White Oak (24%) and Red Maple (18%). This stand is slightly over stocked at 81% relative density and 140 sq.ft. BA/acre of which 74 are considered to be acceptable growing stock. There is insufficient desirable regeneration present with only 16% of the area containing adequate competitive regeneration.

Interfering Elements: Deer browse pressure in this area is estimated to be moderate and must be addressed when considering regeneration efforts on this site. Interfering plant competition poses a significant impediment to future regeneration efforts, with 35% of the site containing problematic levels of fern and 'grass', and 92% containing low woody interference primarily in the form of Dewberry. Tall woody interference is found on only 12% of the stand and need not be factored into future management prescriptions. No non-native invasive species, (NNIS) observed during the inventory. Black Knot, a stem canker disease common to Cherry, is prevalent throughout the stand and has resulted in numerous dead and dying trees, many of which failed and snapped off under the weight of the heavy wet snow during the October 2012 storm. No other significant insect pest or diseases were observed.

Historic Conditions: The stand was sprayed for Gypsy Moth Control in 1989, 1990 and 1991 reflecting a significant investment in protecting this valuable stand. The northernmost 1/3 of this stand had been thinned along with the upland oak stand (Stand 35-5) to the north in 2000. No evidence of recent fire activity was observed during the recon.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the silvicultural prescription.

Habitats and Species of Management Concern: The Forest Manager knows of no habitats or species of management concern on the site that would be impacted by the silvicultural prescription. The nearest High Conservation Value Forest (HCFV) area is the Ecologically Sensitive Area (ESA) referred to as Murley Run ESA), with the southern end of this ESA being located 200 yards to the west of the stand. The ESA is established for the protection of the included wetland of special concern, as well as the Deer Wintering area and will not be impacted by management work in this stand.

Water Resources: This stand drains toward both Murley Run, within the Youghiogheny River Watershed. The proposed silvicultural treatments will be outside of all HCFV stream buffer areas.

No heavy equipment will be permitted within the protective riparian buffers of any streams or associated wetlands per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

Recreation Resources: There are no developed recreation facilities immediately adjacent to the stand.

Soil Resources: Underlying soils include: 'DeKalb and Gilpin very stony loams' and 'Cookport and Ernest very stony silt loams.' These soils are generally moderately deep and well drained with inclusions of some poorly drained soils. Degree of slope ranges from 0-25% throughout the site. Equipment limits range slight to moderate as slopes approach 25%, and are moderate on lower slopes containing the Cookport soils, based on water table being close to the surface in late winter and early spring. The site has very good productivity for woodland management, with a site index of 65-75 for upland oaks.

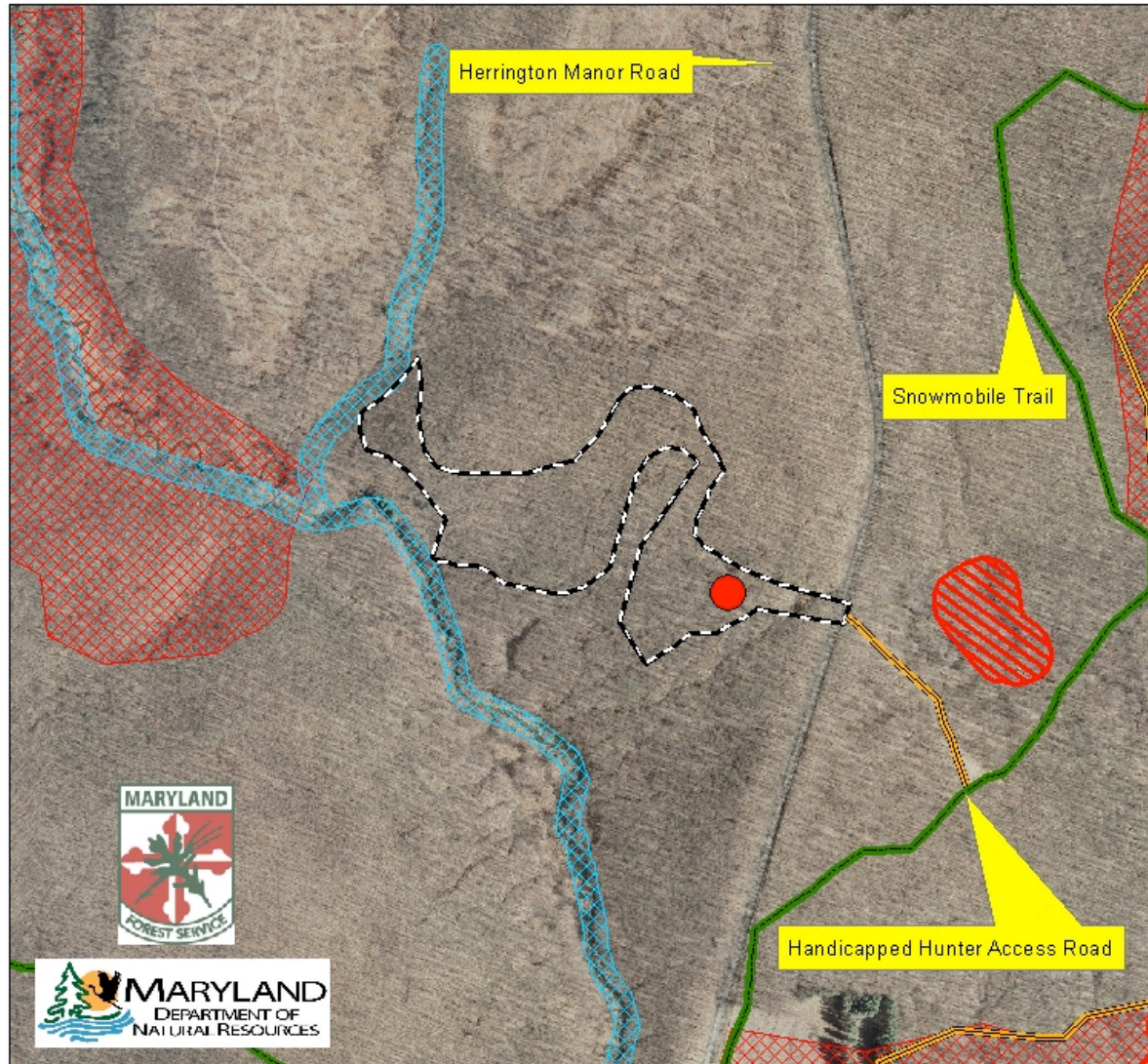
Management and Silvicultural Recommendations

The planned silvicultural treatment for this site is to regenerate using a 2-stage shelterwood system. The first stage of this regeneration system will be an "establishment/seed cut" that will involve both thinning the stand and treating the interfering understory plants that are limiting seedling development in order to provide suitable conditions for both seed production and seedling establishment.

The stand will be thinned to reduce the stocking, providing optimum growth potential for the residual seed producing trees. This thinning will be conducted as a crown thinning carried out as a commercial harvest. In order to make this thinning commercially practical, the stand density will be reduced to approximately 50% relative density, retaining a basal area of 80-90 sq. ft. BA/acre. This thinning will yield approximately 2,500-3,000 board feet /acre. The harvest will remove unacceptable growing stock including the over mature and poor condition sawtimber trees. Marking will focus on retaining high quality stems in the dominant and co-dominant canopy positions as desirable seed trees, with a focus on retaining both Cherry and Oaks. In order to retain important wildlife habitat elements, where available, 4-6 individual cavity bearing trees/acre will be marked for retention during this operation; with these trees being carried through to future final harvest.

Interfering plant competition poses a significant factor in regeneration and must be addressed at this first stage. Following the harvest, (allowing at least one full growing season), the problematic understory (fern, grass and Dewberry) will be treated with an appropriate herbicide to remove these impediments to seedling establishment. This treatment will open the forest floor to increased sunlight necessary for the desired regeneration.

Compartment 35 Stand 6 FY-19




Stand Acres.....19
 Harvest Acres.....19
 Forest Type.....Allegheny Hardwood
 Basal Area.....140
 BA AGS.....74
 Stocking.....81%
 Site Index.....65 for Black Cherry
 Composition.....Black Cherry 45%
 White Oak 24%
 Red Maple 18%

 Proposed Area

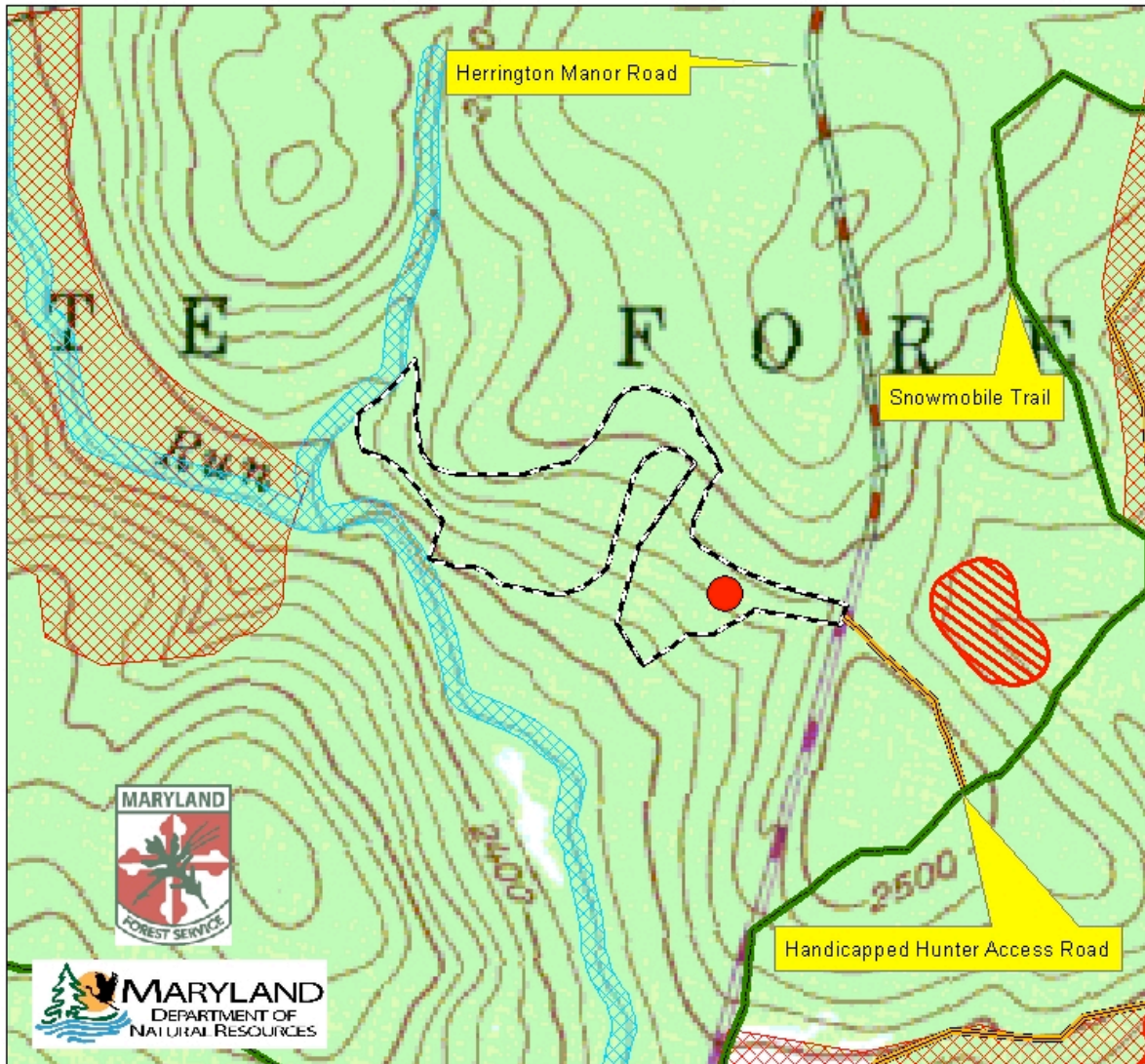
-  Wetlands
-  Ecologically Significant Area
-  Old Growth w/ 300' Buffer
-  Old Growth Management Unit
-  Wetland of State Concern w/ 100' Buffer
-  Streams w/ 50' Buffer

0 215 430 860 1,290 1,720
 Feet

 79°26'36.945\"W 39°28'14.664\"N



Compartment 35 Stand 6 FY-19



Stand Acres.....19
 Harvest Acres.....19
 Forest Type.....Allegheny Hardwood
 Basal Area.....140
 BA AGS.....74
 Stocking.....81%
 Site Index.....65 for Black Cherry
 Composition.....Black Cherry 45%
 White Oak 24%
 Red Maple 18%

Proposed Area

- Wildlands
- Ecologically Significant Area
- Old Growth w/ 300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

0 215 430 860 1,290 1,720
 Feet

79°26'36.945"W 39°28'14.664"N



Description/Resource Impact Assessment

Location: This area is located in the Kindness Demonstration Area; Compartment 43 Stand 8 of the Garrett State Forest. This stand fronts the south side of Fingerboard Road, along the entire width of the compartment.

Forest Community Type and Condition: Of this 50-acre stand, 38 acres is considered operable, with the balance being retained for conservation purposes such as buffers, etc. The site contains an immature, 90 year old mixed oak stand. The overstory is made up primarily of White Oak (37%) Scarlet Oak (20%), and Red Maple (27%). This stand is over stocked at 100% relative density and 127 sq.ft. BA/acre. Typical of such heavily overstocked, unmanaged stands, established desirable regeneration is minimal, with only 44% of the stand containing sufficient regeneration for future stand development.

Interfering Elements: Deer browse pressure in this area is estimated to be high and must be addressed when considering regeneration efforts on this site. Interfering plant competition is light to moderate, with only 6% of the stand having problematic tall woody interference, 10% supporting interfering levels of dense ferns and grasses, and 20% of the stand containing problematic levels of low woody interference, primarily Dewberry. Non-native invasive species (NNIS) observed in the stand inventory include the occasional Japanese barberry.

Historic Conditions: This site, like most of PGSF, was likely cutover and burned around the turn of the 20th century. In recent time, this stand has not been entered. There is no forest pest or significant disease present, and no evidence of recent fire activity was observed during the recon.

Rare, Threatened and Endangered Species: The stand sits upslope of HCVF (High Conservation Value Forest). This HCVF includes an Ecologically Significant Area known as the Dunkard Lick ESA. The area provides protection for 'Wetlands of Special State Concern', a number of threatened and endangered plants and animals, and a globally rare amphipod. The ESA also serves as a protective deer wintering area. The Forest Manager knows of no rare, threatened or endangered species in the stand or impacted by the silvicultural prescription.

Habitats and Species of Management Concern: There are no known habitats or species of management concern on this site.

Water Resources: This ridge top site drains north and south to unnamed tributaries of Dunkard Lick and is part of the Youghiogheny River Watershed. The proposed silvicultural treatments will be outside of all required protective riparian buffers of the wetlands and streams.

Recreation Resources: The stand lies within the Kindness Demonstration Area and extends eastward, off the demonstration areas interpretive trail. The trail serves as part of the multiple-use trail network on the Garrett State Forest and offers a number of interpretive wayside exhibits explaining the various forestry and wildlife management practices found throughout the demonstration area.

Soil Resources: Underlying soils include: ‘Dekalb and Gilpin very stony loams’. These soils are generally moderately deep and well drained with inclusions of some poorly drained soils, with moderate equipment limits because water table is close to the soil surface in winter and early in spring. Degree of slope ranges from 0-15% throughout the site. The site has very good productivity for woodland management, with a site index of 65-75 for upland oaks.

Management and Silvicultural Recommendations

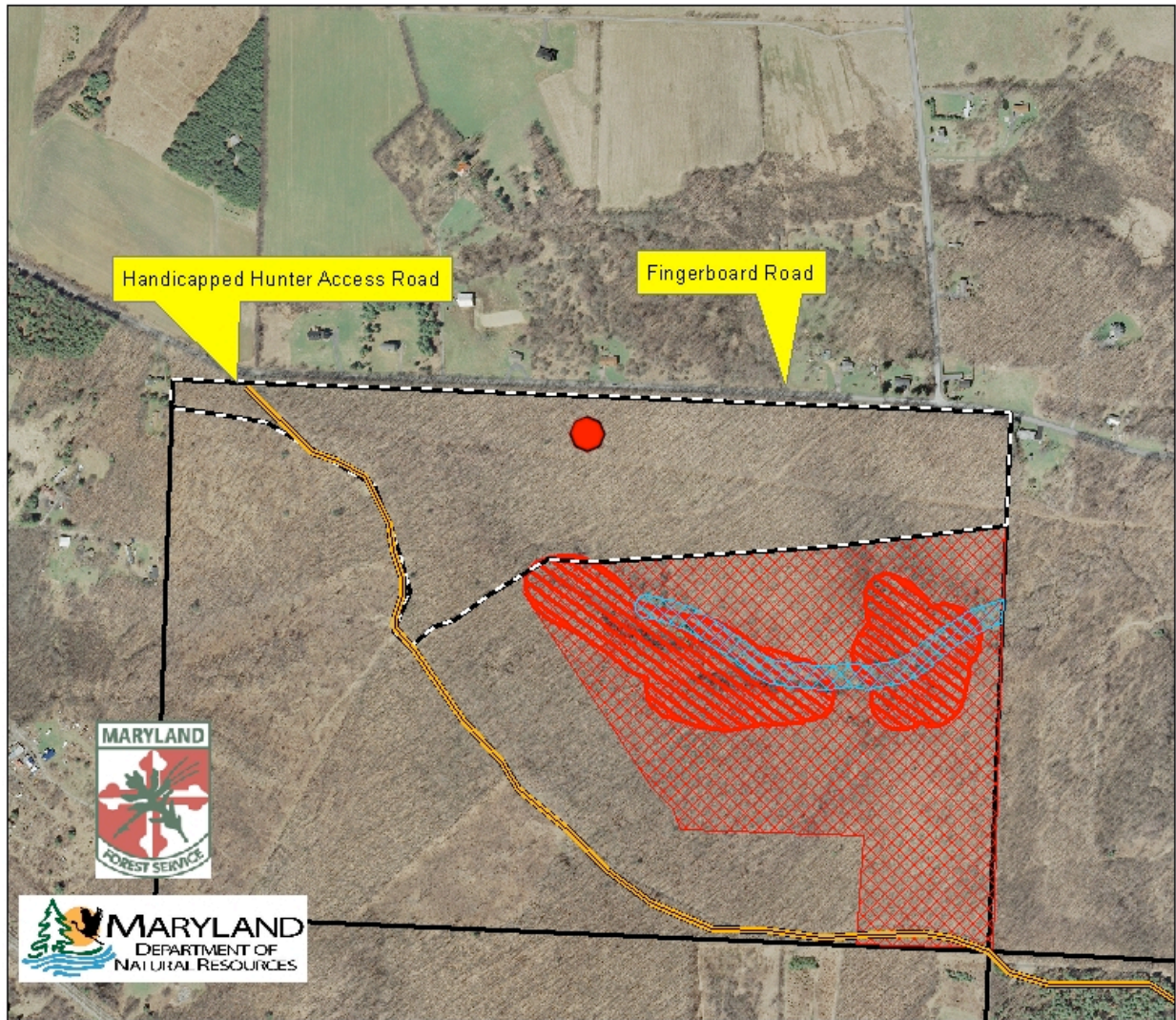
As this stand is nearly mature and overstocked, initial goals for this stand were to begin moving toward regenerating the stand. However, as it is part of the Kindness Demonstration Forest, and there are already a couple of mixed oak stands being managed with the shelterwood system most appropriate for these stand conditions, we will opt to extend the stands rotation length, and carry out a commercial thinning with the objective of reducing stocking to increase the overall health and vigor of the stand.

More specifically, this thinning will reduce the stocking level to approximately 60-65% relative density by applying a free thinning throughout the stand. The Scarlet oak component will be looked at critically for removals, as they are not doing well in overstocked, nearly mature stands across the forest. This thinning practice will remove much of the unacceptable and over mature merchantable growing stock thereby improving the vigor and health of the residual trees. Approximately, 80 sq. ft. of basal area per acre is the target for the residual stand providing a harvest of approximately 2,500 Bd. Ft. per acre. In order to retain important wildlife habitat elements, and to preserve a ‘legacy’ component of the original stand, retention areas will be identified during this thinning operation to be carried through to future final harvest.

For the safety of visitors, trail users and the contractors carrying out the work, during the harvest, the effected sections of the interpretive trail will be posted and closed, with visitors being redirected to other trails in the area.

The area should be examined again in 10 years to begin planning for a regeneration harvest. Note this late rotational thinning is expected to result in an increase in interfering understory plants, especially ferns and dewberry that will likely need to be addressed in future regeneration efforts.

Compartment 43 Stand 8 FY-19



Stand Acres.....50
 Harvest Acres.....38
 Forest Type.....Mixed Oak
 Basal Area.....127
 BA AGS.....83
 Stocking.....100%
 Site Index.....60 for White Oak
 Composition.....White Oak 37%
 Red Maple 27%
 Scarlet Oak 20%

0 215 430 860 1,290 1,720
 Feet

Proposed Area

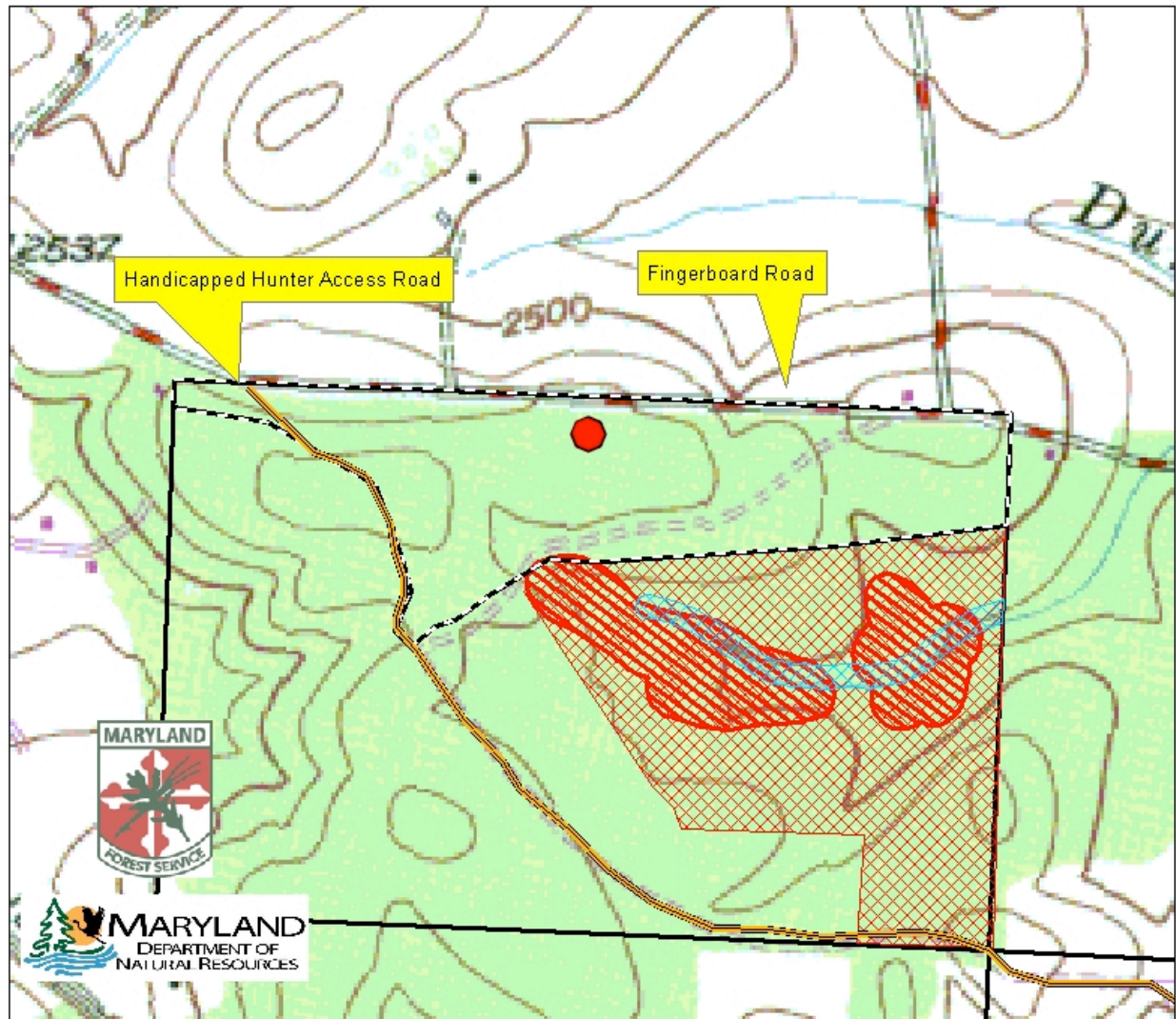
HCVF Components

- Wildlands
- Ecologically Significant Area
- Old Growth w/300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

79°28'7.378"W 39°25'20.958"N



Compartment 43 Stand 8 FY-19



Proposed Area

Stand Acres.....50
 Harvest Acres.....38
 Forest Type.....Mixed Oak
 Basal Area.....127
 BA AGS.....83
 Stocking.....100%
 Site Index.....60 for White Oak
 Composition.....White Oak 37%
 Red Maple 27%
 Scarlet Oak 20%

HCVF Components

- Wildlands
- Ecologically Significant Area
- Old Growth w/300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

0 215 430 860 1,290 1,720 Feet

79°28'7.378"W 39°25'20.958"N



Description/Resource Impact Assessment

Location: This stand is located on the west side of the State Forest's Piney Mountain Road, south of the Powerline right-of-way and north of the snowmobile trail, within Compartment 45 Stand 1 of the Garrett State Forest.

Forest Community Type and Condition: This 9-acre site contains a 97 year old Mixed Oak stand. The overstory is made up primarily of Red Maple (46%) of the BA, Northern Red Oak (31%), and Chestnut Oak (14%). The stand is overstocked at 104% relative density and 155 sq.ft. BA/acre. The stand is growing 7,242 bd.ft./ac. Typical of unmanaged stands of this age, the area contains little to no (5%) desirable, competitive regeneration.

Interfering Elements: Interfering plant competition poses a significant impediment to future regeneration. While only 8% of the site contains problematic levels of fern and 'grass' and low woody interference, tall woody interference is found over 67% of the stand, primarily in the form of Black Birch saplings along with some dense pockets of Mountain Laurel. Deer browse pressure in this area is estimated to be moderate and must be addressed when considering regeneration efforts on this site. Non-native invasive species, (NNIS) were not observed during the inventory and there were no significant insect pest or diseases seen in the stand.

Historic Conditions: State Forest records show no history of harvest since the state's acquisition. No evidence of recent fire activity was observed.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the proposed silvicultural prescription.

Habitats and Species of Management Concern: There is High Conservation Value Forest located well to the east of the stand. This HCVF contains the Piney Mountain West. The HCVF is so designated as it provides conservation protection to wetlands of special State concern, as well as habitat for several rare threatened or endangered plants and animals including: Bobcats, Snowshoe Hare, Green Salamanders as well as Balsam Fir and Red Spruce. The Forest Manager knows of no habitats or species of management concern on the site that would be impacted by the silvicultural prescription.

Water Resources: This ridge top stand drains northward to an un-named tributary of Piney Run, part of the Youghiogheny River Watershed. Planned work will take place outside of all HCVF stream buffer areas. All streams and wetlands will be protected per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

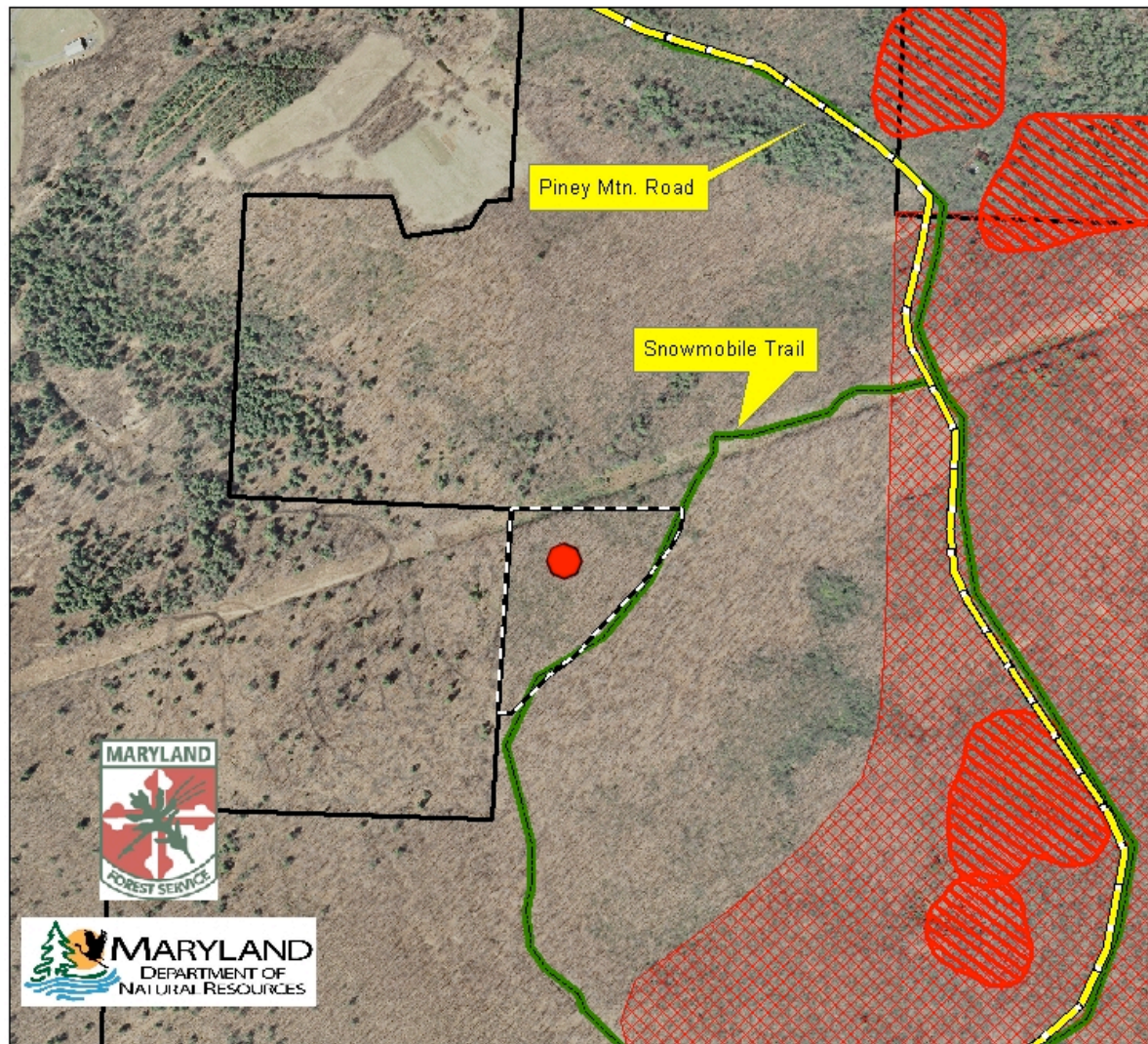
Recreation Resources: The Piney Mountain Snowmobile Trail runs along the south-eastern edge of the stand.


Soil Resources: Underlying soils are 'Dekalb and Leetonia very stony sandy loams'. These very acid soils are generally moderately deep and well drained and do not retain moisture well. Degree of slope ranges from 0-15% throughout the site. Equipment limits range slight to moderate as slopes approach 25%. Hazard of erosion is slight to moderate on the steeper slopes. The site has fair productivity for woodland management, with a site index of 55-65 for upland oaks.

Management and Silvicultural Recommendations

The planned silvicultural treatment for this site is to carry out a 'weeding' practice, to create understory conditions suitable for the establishment of desirable seedling growth. Interfering vegetation will be controlled using appropriate herbicide applications. The problematic sapling sized tall woody interference comprised mainly of the black birch, will be treated with a stem directed herbicide treatment (cut surface or basal bark application). This treatment will open the forest floor to increased sunlight necessary for desired seedling establishment. Following the treatment, the stand will be monitored for regeneration over the next 5-10 years. As seedlings become established, additional cultural work will be prescribed as necessary to bring this new seedling crop along.

Compartment 45 Stand 1 FY-19




 Proposed Area

Stand Acres.....9
 Forest Type.....Mixed Oak
 Basal Area.....155
 BA AGS.....143
 Stocking.....104%
 Site Index.....60 for Red Oak
 Composition.....Red Maple 46%
 Red Oak 31%
 Chestnut Oak 14%

HCVF Components

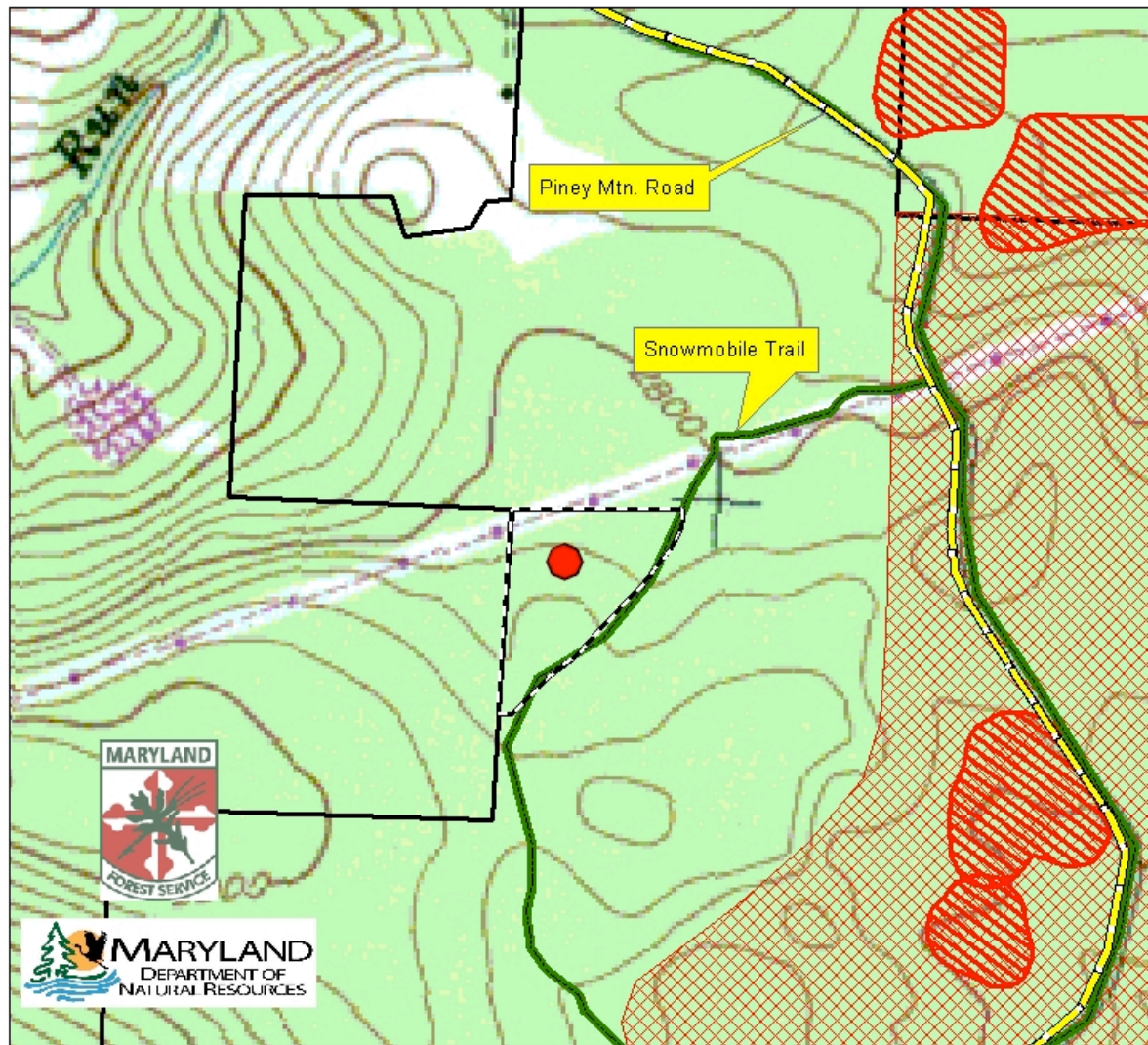
-  Wildlands
-  Ecologically Significant Area
-  Old Growth w/ 300' Buffer
-  Old Growth Management Unit
-  Wetland of State Concern w/ 100' Buffer
-  Streams w/ 50' Buffer

 79°27'37.084"W 39°32'27.423"N

0 215 430 860 1,290 1,720
 Feet



Compartment 45 Stand 1 FY-19



Proposed Area

Stand Acres.....9
 Forest Type.....Mixed Oak
 Basal Area.....155
 BA AGS.....143
 Stocking.....104%
 Site Index.....60 for Red Oak
 Composition.....Red Maple 46%
 Red Oak 31%
 Chestnut Oak 14%

HCVF Components

- Wildlands
- Ecologically Significant Area
- Old Growth w/ 300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

0 215 430 860 1,290 1,720
 Feet

79°27'37.084"W 39°32'27.423"N



Description/Resource Impact Assessment

Location: This stand is located on the west side of the State Forest's Piney Mountain Road, south of the Powerline right-of-way and the snowmobile trail, within Compartment 45 Stand 2 of the Garrett State Forest.

Forest Community Type and Condition: This 30-acre site contains a 97 year old hardwood stand that is transitioning from a Mixed Oak stand to Alleghany Hardwoods stand. The overstory is made up primarily of Red Maple (47%) of the BA, Northern Red Oak (43%), and Black Birch (9%). The stand was heavily thinned in 2000. It is fully stocked at 79% relative density and 113 sq.ft. BA/acre. BA distribution across the diameter classes does not exhibit the "bell shaped curve" typical of most hardwood stands. Rather, this stand appears to be somewhat of a "2-aged" stand with the stand growing 4,266 bd.ft./ac. There is insufficient desirable regeneration present with only 15% of the area containing adequate desirable, competitive regeneration.

Interfering Elements: Interfering plant competition poses a significant impediment to future regeneration with 34% of the site containing problematic levels of fern and 'grass' and low woody interference primarily in the form of Dewberry. Tall woody interference is found over 62% of the stand, primarily in the form of Black Birch saplings. This will need to be factored into future management prescriptions. Deer browse pressure in this area is estimated to be moderate and must be addressed when considering regeneration efforts on this site. Non-native invasive species, (NNIS) were not observed during the inventory and there were no significant insect pest or diseases seen in the stand.

Historic Conditions: The stand was heavily thinned in 2000. No evidence of recent fire activity was observed.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the proposed silvicultural prescription.

Habitats and Species of Management Concern: There is High Conservation Value Forest located to the east of the stand. This HCVF contains the Piney Mountain West ESA. The HCVF is so designated as it provides conservation protection to wetlands of special State concern, as well as habitat for several rare threatened or endangered plants and animals including: Bobcats, Snowshoe Hare, Green Salamanders as well as Balsam Fir and Red Spruce. The Forest Manager knows of no habitats or species of management concern on the site that would be impacted by the silvicultural prescription.

Water Resources: This ridge top stand drains northward to an un-named tributary of Piney Run, part of the Youghiogheny River Watershed. Planned work will take place outside of all HC VF stream buffer areas. All streams and wetlands will be protected per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

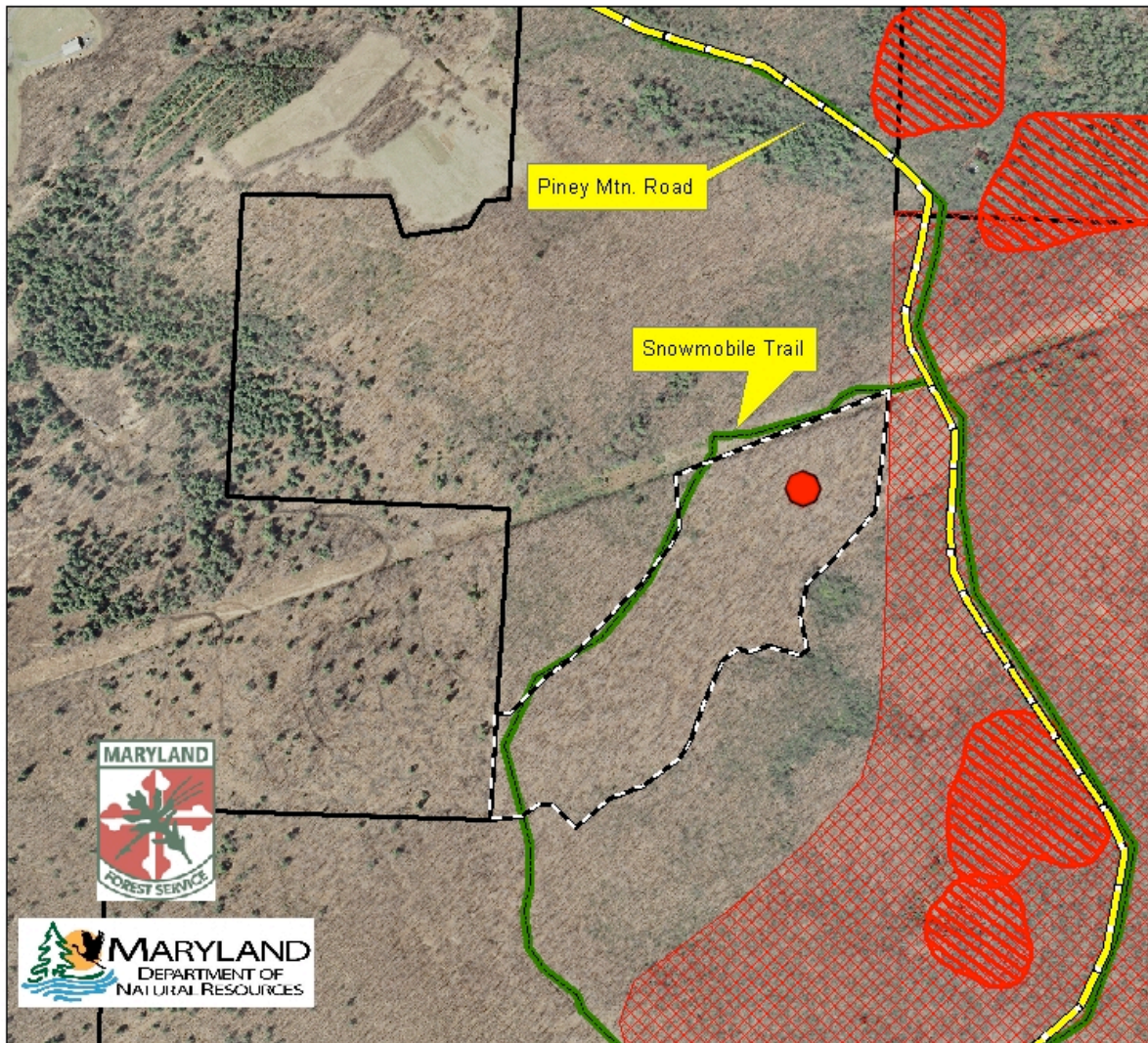
Recreation Resources: The Piney Mountain Snowmobile Trail runs along the northeastern edge of the stand.

Soil Resources: Underlying soils are 'Dekalb and Leetonia very stony sandy loams'. These very acid soils are generally moderately deep and well drained and do not retain moisture well. Degree of slope ranges from 0-15% throughout the site. Equipment limits range slight to moderate as slopes approach 25%. Hazard of erosion is slight to moderate on the steeper slopes. The site has fair productivity for woodland management, with a site index of 55-65 for upland oaks.

Management and Silvicultural Recommendations

Stand stocking is suitable for seedling establishment, however, interfering vegetation in the understory is preventing this. As such, the planned silvicultural treatment for this site is to carry out a 'weeding' practice to create understory conditions suitable for the establishment of desirable seedling growth. Interfering vegetation will be controlled using appropriate herbicide applications. The problematic ground cover of ferns, grasses, and the lower growing (<15 ft tall) Striped Maple and Black Birch will be treated using low volume/low concentration foliar applications with both high and low nozzles to treat both ground level and up to 15 ft. undesired plants. The larger sapling sized tall woody interference comprised mainly of the Black Birch, will be treated with a stem directed herbicide treatment (cut surface or basal bark application). This treatment will open the forest floor to increased sunlight necessary for desired seedling establishment. Following these treatments, the stand will be monitored for regeneration over the next 5-10 years. As seedlings become established, additional cultural work will be prescribed as necessary to bring this new seedling crop along.

Compartment 45 Stand 2 FY-19



Proposed Area

Stand Acres.....30
 Forest Type.....Mixed Oak
 Basal Area.....113
 BA AGS.....103
 Stocking.....79%
 Site Index.....60 for Red Oak
 Composition.....Red Maple 47%
 Red Oak 43%
 Birch 9%

HCVF Components

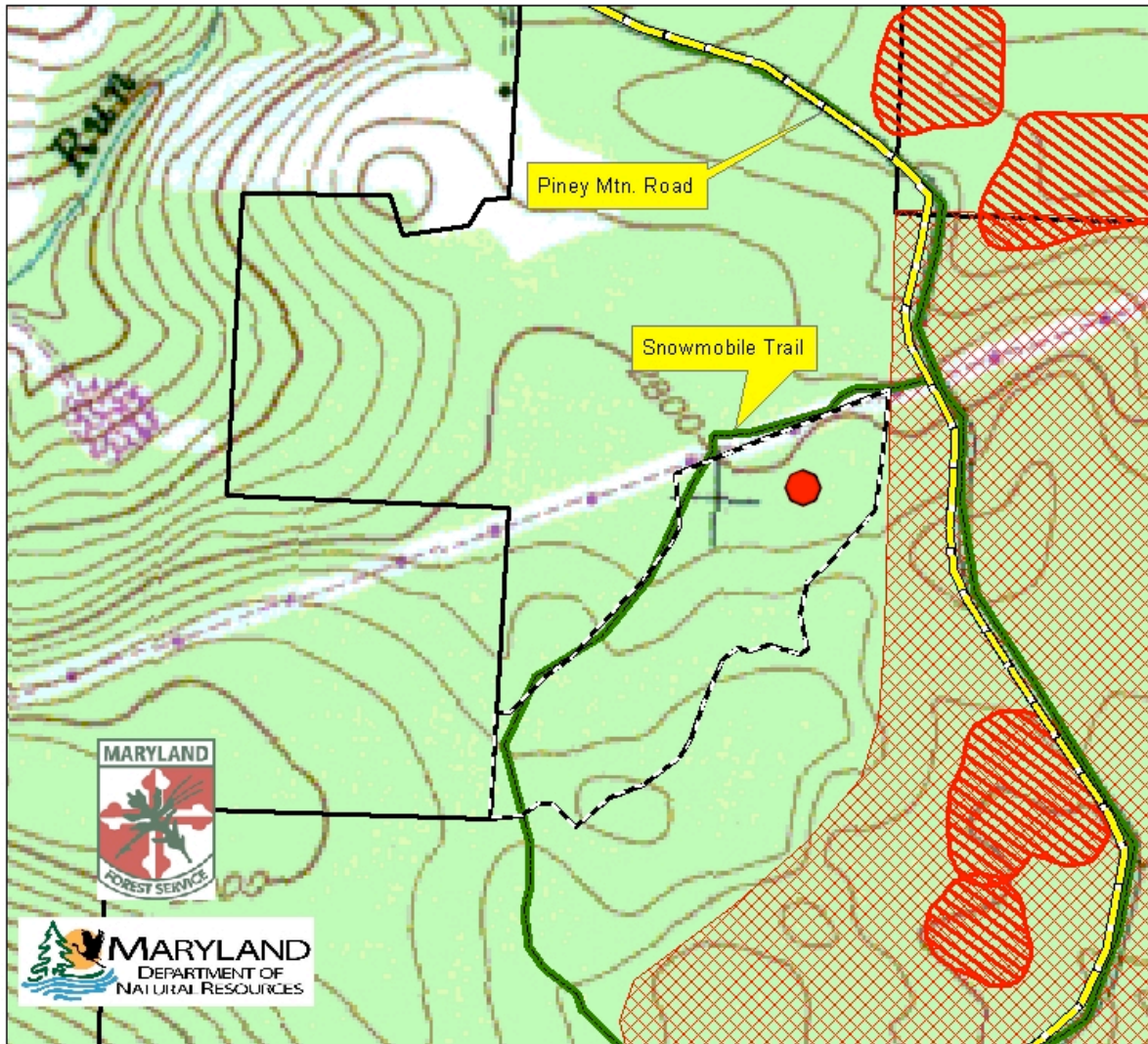
- Wildlands
- Ecologically Significant Area
- Old Growth w/ 300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

0 215 430 860 1,290 1,720
 Feet

79°27'24.081"W 39°32'30.497"N



Compartment 45 Stand 2 FY-19



Proposed Area

Stand Acres.....30
 Forest Type.....Mixed Oak
 Basal Area.....113
 BA AGS.....103
 Stocking.....79%
 Site Index.....60 for Red Oak
 Composition.....Red Maple 47%
 Red Oak 43%
 Birch 9%

HCVF Components

- Wildlands
- Ecologically Significant Area
- Old Growth w/ 300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

79°27'24.081"W 39°32'30.497"N

0 215 430 860 1,290 1,720 Feet



Description/Resource Impact Assessment

Location: This site is located on the west side of the State Forest's Piney Mountain Road, and is accessed from the gated snowmobile trail, across from campsite #55 near the end of Piney Mountain Road within Compartment 45 Stand 10 of the Garrett State Forest.

Forest Community Type and Condition: This 31-acre site contains a 97 year old Alleghany Hardwood stand heavily thinned in 1998. The overstory is made up primarily of Red Maple (37%) of the BA, Northern Red Oak, (31%), and Black Cherry (11%). The stand is just fully stocked at a relative density of 59% and 92 sq.ft. BA/acre. The stand is growing 4,720 bd.ft./ac. The stand contains insufficient regeneration with only 54% the stand containing desirable, competitive regeneration.

Interfering Elements: Interfering plant competition poses a significant impediment to future regeneration. Problematic levels of fern, 'grass' occur on 18% low woody interference occurs on 9% of the site and is primarily Black Birch. Tall woody interference is found 44% of the stand. Deer browse pressure in this area is estimated to be moderate and must be addressed when considering regeneration efforts on this site. Non-native invasive species, (NNIS) were not observed during the inventory and there were no significant insect pest or diseases seen in the stand.

Historic Conditions: This stand was sprayed for Gypsy Moths in 1991, indicating a significant investment in this resource. There was no evidence of recent fire activity observed .

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the proposed silvicultural prescription.

Habitats and Species of Management Concern: There is High Conservation Value Forest located well to the east of the stand. This HCVF contains the Piney Mountain West. The HCVF is so designated as it provides conservation protection to wetlands of special State concern, as well as habitat for several rare threatened or endangered plants and animals including: Bobcats, Snowshoe Hare, Green Salamanders as well as Balsam Fir and Red Spruce. The Forest Manager knows of no habitats or species of management concern on the site that would be impacted by the silvicultural prescription.

Water Resources: This ridge top stand drains south toward an un-named tributary of Muddy Creek, part of the Youghiogheny River Watershed. Planned work will take place outside of all HCVF stream buffer areas. All streams and wetlands will be protected per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

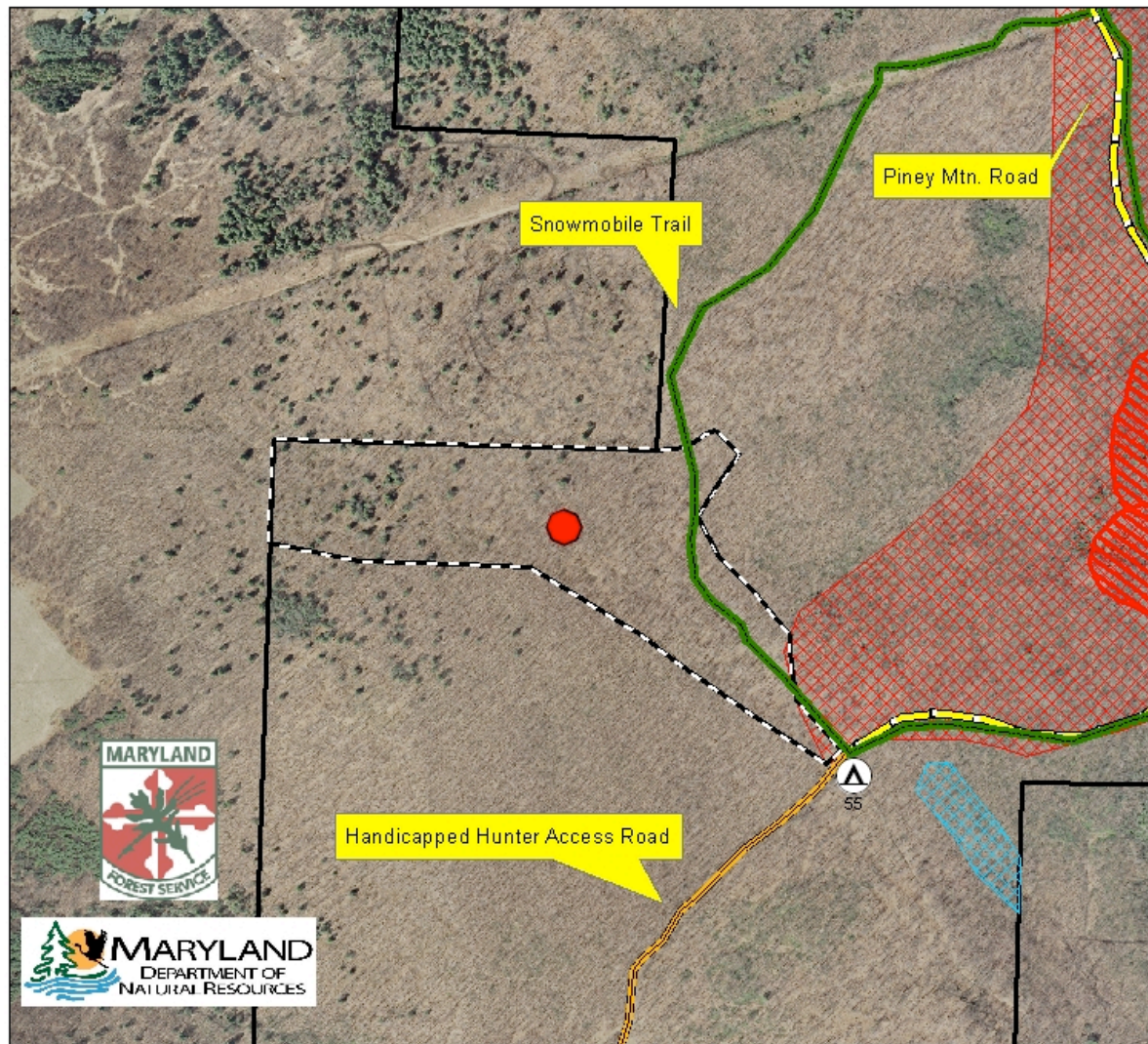
Recreation Resources: The Piney Mountain Snow mobile Trail runs through the front of this stand. Campsite 55 is located at the northwest corner of the stand.


Soil Resources: Underlying soils are 'Dekalb and Leetonia very stony sandy loams' with a strip of 'Albrights very stony loams' occurring along the northeastern boundary . The Dekalb and Letonia soils are very acid soils, are generally moderately deep and well drained and do not retain moisture well. The Albrights soils can be somewhat poorly drained to well drained. Degree of slope ranges from 0-15% throughout the site. Equipment limits range slight to moderate as slopes approach 25% and on the Albrights soils because of wetness and high water table in the late winter and spring. Hazard of erosion is slight to moderate on the steeper slopes. The site has good productivity for woodland management, with a site index of 65-75 for upland oaks.

Management and Silvicultural Recommendations

Stand stocking is suitable for seedling establishment, however, interfering vegetation in the understory is preventing this. The planned silvicultural treatment for this site is to carry out a 'weeding' practice, to create understory conditions suitable for the establishment of desirable seedling growth. Interfering vegetation will be controlled using appropriate herbicide applications. The problematic sapling sized tall woody interference comprised mainly of the black birch, will be treated with a stem directed herbicide treatment (cut surface or basal bark application). This treatment will open the forest floor to increased sunlight necessary for desired seedling establishment. Following the treatment, the stand will be monitored for regeneration over the next 5-10 years. As seedlings become established, additional cultural work will be prescribed as necessary to bring this new seedling crop along.

Compartment 45 Stand 10 FY-19




 Proposed Area

Stand Acres.....31
 Forest Type.....Mixed Oak
 Basal Area.....92
 BA AGS.....85
 Stocking.....59%
 Site Index.....60 for Red Oak
 Composition.....Red Maple 37%
 Red Oak 31%
 Black Cherry 11%

HCVF Components

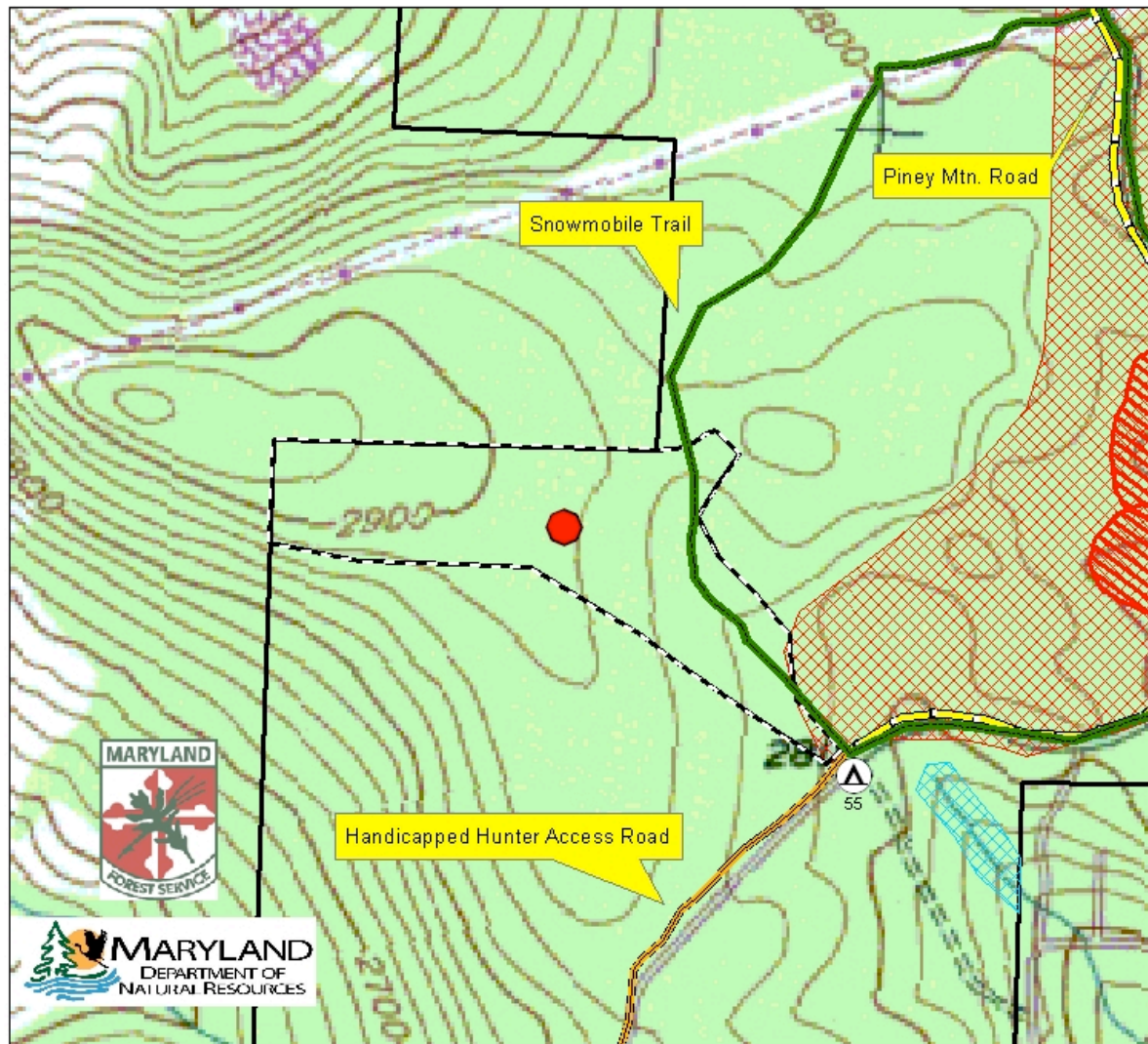
-  Wildlands
-  Ecologically Significant Area
-  Old Growth w/ 300' Buffer
-  Old Growth Management Unit
-  Wetland of State Concern w/ 100' Buffer
-  Streams w/ 50' Buffer

 79°27'45.572"W 39°32'13.035"N

0 215 430 860 1,290 1,720
 Feet



Compartment 45 Stand 10 FY-19



Proposed Area

Stand Acres.....31
 Forest Type.....Mixed Oak
 Basal Area.....92
 BA AGS.....85
 Stocking.....59%
 Site Index.....60 for Red Oak
 Composition.....Red Maple 37%
 Red Oak 31%
 Black Cherry 11%

HCVF Components

- Wildlands
- Ecologically Significant Area
- Old Growth w/ 300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

0 215 430 860 1,290 1,720
 Feet

79°27'45.572"W 39°32'13.035"N



Description/Resource Impact Assessment

Location: This site is located on the east side of the State Forest's Piney Mountain Road, beginning at campsite 55 and fronting this road to the end at the Handicapped Hunter Access area, within Compartment 45 Stand 15 of the Garrett State Forest.

Forest Community Type and Condition: This 39-acre site contains a 97 year old mixed oak stand that was salvage/thinned in 2003, following Gypsy Moth defoliation in the stand. The overstory is made up primarily of Northern Red Oak (39%) of the BA, Red Maple (22%), and Chestnut Oak (18%). The stand is fully stocked at a relative density of 76% and 99 sq.ft. BA/acre. The stand is growing 4,365 bd.ft./ac. The stand contains insufficient regeneration with only 9% the stand containing desirable, competitive regeneration.

Interfering Elements: Interfering plant competition poses a significant impediment to future regeneration. Problematic levels of fern, 'grass' occur on 12% of the stand; low woody interference occurs on 33% of the site and is made up primarily of Mountain Laurel, Sassafras and Black Birch. Tall woody interference is found over 70% of the stand (note at least 10 sq. ft. BA is found as sapling and pole sized Black Birch and Sassafras.) Deer browse pressure in this area is estimated to be moderate and must be addressed when considering regeneration efforts on this site. Non-native invasive species, (NNIS) were not observed during the inventory and there were no significant insect pest or diseases seen in the stand.

Historic Conditions: This stand was sprayed for Gypsy Moths in 1991, indicating a significant investment in this resource. A later Gypsy Moth defoliation, forced a salvage thinning in 2003, at which time there had been a prescription made to carry out a prescribed fire to control the interfering, undesirable vegetation that was restricting desired seedling development. No prescribed fire was able to be carried out, and there was evidence of recent fire activity observed.

Rare, Threatened and Endangered Species: The Forest Manager knows of no rare, threatened or endangered species on the site, or that would be impacted by the proposed silvicultural prescription.

Habitats and Species of Management Concern: There is High Conservation Value Forest located well to the east of the stand. This HCVF contains the Piney Mountain West ESA. The ESA is so designated as it provides conservation protection to wetlands of special State concern, as well as habitat for several rare threatened or endangered plants and animals including: Bobcats, Snowshoe Hare, Green Salamanders as well as Balsam Fir and Red Spruce. The Forest Manager knows of no habitats or species of management concern on the site that would be impacted by the silvicultural prescription.

Water Resources: This ridge top stand drains south toward an un-named tributary of Muddy Creek, part of the Youghiogheny River Watershed. Planned work will take place outside of all HCVF stream buffer areas. All streams and wetlands will be protected per the requirements set forth in the Potomac-Garrett State Forest Sustainable Forest Management Plan.

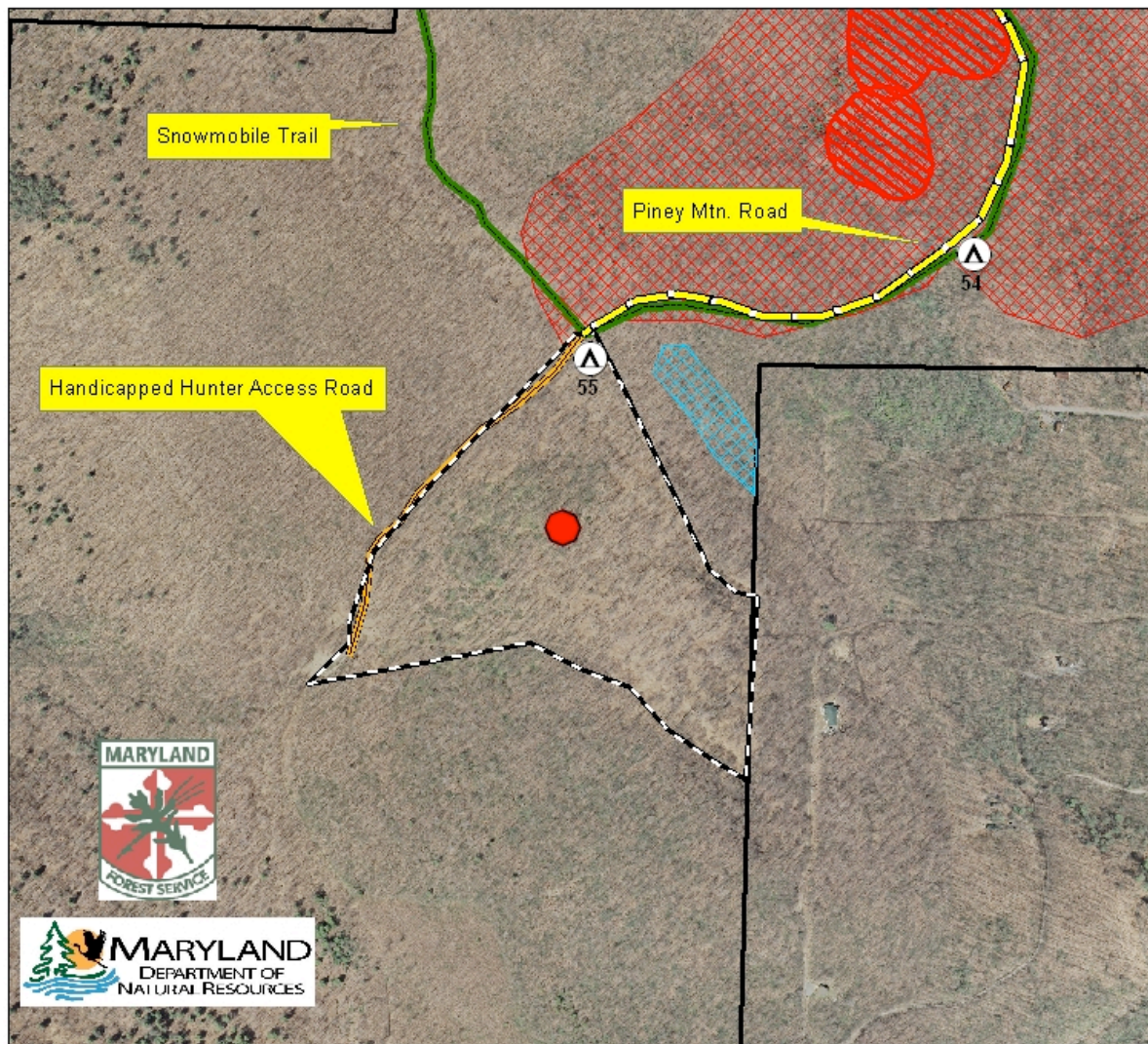
Recreation Resources: The Piney Mountain Road serves as an ORV and Snow mobile Trail. The stand fronts this road as well as the back section of the Piney Mountain road which serves as a Handicapped Hunter Access area. Campsite 55 is located at the northwest corner of the stand.

Soil Resources: Underlying soils are 'Dekalb and Leetonia very stony sandy loams' with a strip of 'Albrights very stony loams' occurring along the northeastern boundary. The Dekalb and Letonia soils are very acid soils, are generally moderately deep and well drained and do not retain moisture well. The Albrights soils can be somewhat poorly drained to well drained. Degree of slope ranges from 0-15% throughout the site. Equipment limits range slight to moderate as slopes approach 25% and on the Albrights soils because of wetness and high water table in the late winter and spring. Hazard of erosion is slight to moderate on the steeper slopes. The site has good productivity for woodland management, with a site index of 65-75 for upland oaks.

Management and Silvicultural Recommendations

Stand stocking is suitable for seedling establishment, however, interfering vegetation in the understory is preventing this. The planned silvicultural treatment for this site is to carry out a 'weeding' practice, to create understory conditions suitable for the establishment of desirable seedling growth. Interfering vegetation will be controlled using appropriate herbicide applications. The fern, grass and low woody interference will be controlled using a foliar spray application of an appropriate herbicide. While the problematic tall woody interference will be treated with a stem directed herbicide treatment (cut surface or basal bark application). These treatments will open the forest floor to increased sunlight necessary for desired seedling establishment. Following the treatment, the stand will be monitored for regeneration over the next 5-10 years. As seedlings become established, additional cultural work will be prescribed as necessary to bring this new seedling crop along.

Compartment 45 Stand 15 FY-19



Proposed Area

Stand Acres.....39
 Forest Type.....Mixed Oak
 Basal Area.....99
 BA AGS.....85
 Stocking.....76%
 Site Index.....60 for Red Oak
 Composition.....Red Oak 39%
 Red Maple 22%
 Chestnut Oak 18%

HCVF Components

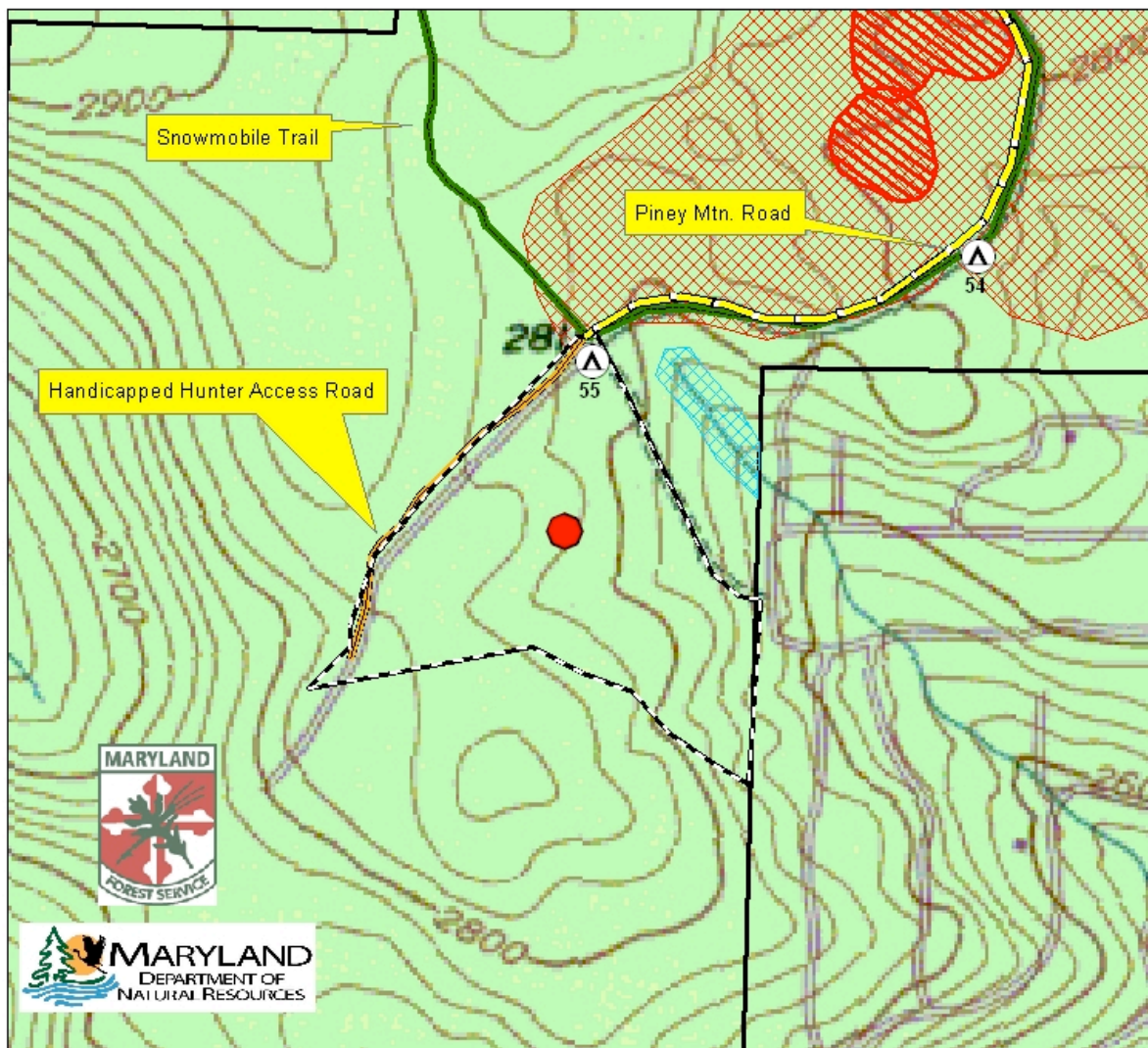
- Wildlands
- Ecologically Significant Area
- Old Growth w/300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

0 215 430 860 1,290 1,720
 Feet

79°27'30.347"W 39°31'55.276"N



Compartment 45 Stand 15 FY-19



Proposed Area

Stand Acres.....39
 Forest Type.....Mixed Oak
 Basal Area.....99
 BA AGS.....85
 Stocking.....76%
 Site Index.....60 for Red Oak
 Composition.....Red Oak 39%
 Red Maple 22%
 Chestnut Oak 18%

HCVF Components

- Wildlands
- Ecologically Significant Area
- Old Growth w/ 300' Buffer
- Old Growth Management Unit
- Wetland of State Concern w/ 100' Buffer
- Streams w/ 50' Buffer

0 215 430 860 1,290 1,720
 Feet

79°27'30.347"W 39°31'55.276"N



XI. Operational Management and Budget Summary (Final FY-18 AWP)

A. INTRODUCTION

This section of the plan is designed to cover the annual cost and revenues associated with the operational management of Potomac-Garrett State Forest (PGSF). The numbers expressed in this section are averages based on actual annual expenses and revenues over 10 years ending July 1, 2017. These numbers should reflect expected results for upcoming Fiscal Years Work Plan. However, annual changes in management prescriptions, timber markets, weather conditions, and public use of the forest can significantly affect revenues.

(Figures reported are a reflection of 2018 Budget amounts compared to the previous 10-year average. See 10-Year Budget Summary.)

B. PGSF FUNDING SOURCES

1. General Fund State Forests in Maryland are funded from several sources. The first is the **General Fund**. This is money generated from taxes. It is used in State Forests primarily to fund classified (permanent) employee salaries and benefits.

2. Special Fund The second source is the **Special Fund**. This is money generated from revenue. The State Forests generate revenue through the collection of service fees, as well as the sale of timber and forest products as detailed within the annual work plan and deposited in the Department of Natural Resources Forest or Park Reserve Fund. These funds must be appropriated by the General Assembly through the annual budgeting process before being spent. It is used in State Forests to fund operational costs. The State Forest budget is prepared approximately one year before the beginning of the fiscal year in which it will be spent. The budget then goes through the legislative approval/review process along with all other State operating budgets. Once adopted, the budget goes into effect the first day of the fiscal year (July 1st).

3. ORV Fund In addition, PGSF is included in the Maryland Forest Service's Off Road Vehicle (ORV) Budget. This separate budget is based on **revenue generated from ORV permit sales** statewide and is allocated back to the State Forests through the budgeting process. ORV funds are a restricted special fund and can only be spent for ORV Trail related expenditures. The fund source (permit sales) has dwindled with the necessary closure of significant trails on the Savage River and Green Ridge State Forests. The limited funds available have been directed toward replacement trail developments on the Savage River and Green Ridge State Forests.

4. Other Funding With limited budgets available for operations, State Forest staffs have been seeking alternative funding sources to carry out necessary maintenance and operations of the State Forest. Sources of potential funding include:

a. Forest Certification Funds

Grant monies secured for the completion of the particular requirements associated with maintaining "Forest Certifications".

b. National Recreational Trail Grants

These grants are competitive and were generally limited to \$30,000 per year per grant. The source of this funding is the Federal Department of Transportation administered through the Maryland Department of Transportation, State Highway Administration. These funds are designated reimbursable funds and are applied to various trail related projects as detailed in specific grant requests.

c. Other Grants

In January of 2012, the Governor announced approximately \$23 million in the proposed capital budget for public land projects that will support nearly 300 jobs, help restore the environment, reduce energy usage, and improve services to visitors and citizens. Approximately \$800,000 of this had been directed to improving the public access and trail network on Potomac-Garrett State Forests.

d. NGO Conservation Partnerships

State Forest staff has regularly sought wildlife habitat improvement grants from various non-governmental conservation organizations. Local chapters have been generous with support and sponsorship of grants submitted to their national, state and local offices. National Wild Turkey Federation and The Ruffed Grouse Society are regular contributors of local habitat funding.

C. BUDGET DISTRIBUTION

1. *Operational Budget for 2018 = \$550,120; 10-Year Average = \$505,346*

Operational budget expenses are those typical year to year costs paid directly out of the PGSF Operational Budget by the State Forest Manager and vary based on approval of operational budgets. The Forest Manager prepares a proposed operational budget for the forest based on instructions provided approximately one year in advance of the fiscal year. Year to year, the operational budget is expected to cover:

a. Classified Salaries, Wages and Benefits

This cost is associated with General Funds which are State tax revenues provided annually. These funds are used to pay the salaries, wages and benefits of Maryland Classified Employees responsible for the management, operations and maintenance of the State Forest.

2018 = \$380,049; 10-Year Average = \$303,388

b. Contractual Staffing

This cost is associated with contractual personnel ("seasonals") hired to assist the classified staff in conducting work outlined in the annual work plan, managing the daily activities on the forest, including boundary line work, maintenance of trails, forest roads, maintaining primitive campsites, a public shooting range, overlooks, wildlife habitat areas, and implementing all maintenance, recreational, silviculture, and ecosystem restoration projects. Does not include those contractual employees hired for special projects over and above the routine management and operation of the forest such as special hires to meet a particular Forest Certification requirement, or a special trail project.

2018 = \$52,467; 10-Year Average = \$69,130

c. Land Management and Operation Cost

This includes expenses for office and field equipment, vehicles, gravel, signs, boundary paint, roadwork contracts and construction, trash removal from illegal dumping, boundary line work & surveying, tree planting, site preparation, control of invasive species, non-commercial thinning and other forest management practices. These costs vary greatly from year to year based on the activities identified in the Annual Work Plan.

2018 = \$68,604; 10-Year Average = \$82,140

d. County Payments

These are revenue payments to local county governments which will vary every year. Payments are made on an annual basis to Garrett County based on 25% of the gross revenue generated from PGSF. These payments come out of revenue generated from timber sales and recreation. These payments have traditionally been used to help the counties offset the loss in property tax revenues which are not paid on State owned lands.

2018 = \$49,000; 10-Year Average = \$46,860

2. Special Project Funds Beyond the typical year to year costs paid directly out of the PGSF Operational Budget, the State Forest generally has a number of additional special projects being carried out to meet various resource management objectives. These special projects are taken on to meet unit objectives as funding sources are identified or secured beyond the normal State Budget stream. These funds are often narrowly targeted to cover specific deliverables over and above the routine management and operation of these public lands. Special Project Funds are loosely categorized as follows:

a. Outside Grants

Funding secured to address specific resource management projects otherwise not funded. Sources include National Recreation Trails Grants, NGO Conservation Organizations (NWTF, RGS, etc.)

2018 = \$90,000; 10-Year Average = \$37,081

b. Certification Fund

Grant monies secured for the completion of the particular requirements associated with maintaining "Forest Certifications"; including forest inventory, resource monitoring, critical cultural work, etc.

2018 = \$13,500; 10-Year Average = \$14,057

c. ORV Funds

ORV funds are a restricted special fund and can only be spent for ORV Trail related expenditures and have played a critical role in maintaining the ORV Trail networks for the State Forests. The fund source (permit sales) has dwindled with the necessary closure of significant trails on the Savage River and Green Ridge State Forests. The limited funds available have been directed toward replacement trail developments on the Savage River and Green Ridge State Forests. Managers have had to rely on other grant sources to address sorely underfunded ORV Trail maintenance demands.

2018 = \$.00; 10-Year Average = \$10,234

D. SUMMARY

This is the general breakdown on Revenues and Operational Costs associated with the Potomac-Garrett State Forest. As described, these figures will vary from year to year. A more detailed picture on revenues and operational costs will be reviewed quarterly as the actual picture develops within implementation of Annual Work Plan and as operating budgets are approved.

XII. Appendices

(Appendix 1) 10 year summary showing the Operational Budget trends for PGSF:

10 - Year Budget Summary

for

Potomac-Garrett State Forest

[illegible]

(Appendix 2) – 10-Year Timber Harvest Summary Table

10 Year Timber Harvest Summary
for
Potomac-Garrett State Forest

<i>Fiscal Year</i>	<i>Planned harvest</i>	<i>Bd. Ft Vol. Harvested</i>	<i>Gross Value of sale</i>
2008	500 – 750 MBF*	793,002	\$ 288,102
2009	500 MBF *	251,990	\$ 29,578
2010	500 MBF *	168,131	\$ 31,720
2011	500-600 MBF	465,653	\$ 155,900
2012	500-600 MBF	534,679	\$ 207,454
2013	500-600 MBF	331,052	\$ 139,300
2014	300 MBF	298,221	\$ 90,031
2015	552 MBF	492,401	\$ 201,311
2016	634 MBF	542,534	\$ 141,416
2017	533 MBF	520,937	\$ 99,540

(* Salvage driven sales.) (**Saw log volumes lost to pulpwood.)



Sustainable Forestry Initiative
Audit 2017

Corrective Action Plan

Minor Non-Conformances

Indicator 1.1.1 i

In the FY2017 Annual Work Plans (AWP) for western State Forests the Ecologically Significant Area (ESA) Plans have not been completed. (SFI 2015-2019 Standards and Rules®, Section 2 – Forest Management, Indicator 1.1.1 i)

• Root Cause Analysis

The FME has met with the Wildlife & Heritage Service (WHS) staff with the sole purpose of continuing the development of the Ecologically Significant Area data for the Western Maryland state forests. The WHS staff person who has started this work by outlining the ESA areas has not completed this work yet. While this project is important to our forest management planning efforts, it is not within our authority to force this work to be done. We have and will continue to address this issue with DNR staff and look for creative alternatives.

• Corrective Action Plan

This work has been completed for the state forests in the Eastern Region, Chesapeake Forest and Pocomoke State Forest, and has proven to be very important to the management of those forests. It has been our intention that the Wildlife & Heritage Service would be able to provide that same product for our Western Maryland state forests. Certification on our Eastern state forests began in 2003 and on our Western Maryland state forests in 2011, so they did have a greater knowledge of the importance of complying with the requirements of the forest certification standards. Plus, while we are an organization with a leadership hierarchy, you cannot discount the factor of personalities when requesting specific work from a fellow unit.

• Containment Plan

First, it was important to have a member of the Wildlife & Heritage Service leadership attend the audit's opening meeting and hear directly this issue and its importance from the audit team.

Since the audit's closing meeting, the FME has drafted a detailed analysis of the Ecologically Significant Area work completed to date and what will constitute a success data set. Also the FME has again met with the WHS leadership to discuss the requested work and develop a plan for its completion.

• Responsible Person

Jack Perdue, Forest Resource Planning and the Maryland forest certification coordinator, will continue to lead the effort to work with the Wildlife & Heritage Service and Forest Service staff to secure the necessary data and information.

- Completion Date

This work will be a winter season effort when fieldwork is not a priority. Before then, the work analysis will be completed and expectations shared with the necessary Forest Service and Wildlife & Heritage Service staff. The results will be presented at the 2018 audit.

Indicator 4.2

On the Maryland DNR Forest Service website the words “Sustainable Forestry Initiative” do not include the registered trademark - ®. (SFI 2015-2019 Standards and Rules®, Section 5 Part 4, Indicator 4.2)

- Root Cause Analysis

This was an oversight on the part of the FME.

- Corrective Action Plan

The necessary changes have been drafted and will be submitted to NSF for approval in the near future. All necessary changes will be submitted to the Maryland DNR Office of Communications Management with all necessary website revisions made before July 14, 2017.

- Containment Plan

The FME reviewed the requirements of Indicator 4.2 plus other state forest certification websites to glean formatting and text. We then drafted appropriate text and submitted to the required forest certification groups for approval. After that approval, the updates will be submitted to the DNR website development staff to that the changes will be live online.

- Responsible Person

Jack Perdue, Forest Resource Planning and the Maryland forest certification coordinator, has worked with the Maryland Department of Natural Resources website development staff to make the necessary changes active.

- Completion Date

All necessary website revisions will be made before July 14, 2017.

Opportunity For Improvement

Indicator 1.1.1 i

There is an Opportunity for Improvement by including in forest management plans more information (known by forest managers) about the role of conifers in the natural history, historic composition, and ecology of higher-elevation portions of the western forests.

- Root Cause Analysis

This work was begun before the 2017 audit but had not yet been entered into the Sustainable Forest Management Plans. Finding historical information on the conifer component of the Western Maryland forests is available back to the beginning of the 20th century. Finding accounts before that period has been difficult. Research and inquiries continue.

- Corrective Action Plan

We have begun a conifer analysis for our Western Maryland state forests, beginning with the Green Ridge State Forest in Allegany County. This effort displayed the raw conifer cover at approximately 441 acres. This project has identified individual trees from six-inch resolution imagery, so even in a pure stand of pine the analysis will still show "holes" between the trees. This GIS data layer will show everything over two meters, so smaller plants such as mountain laurel will not be displayed.

- Containment Plan

Since the audit closing meeting, we have completed the analyses for the two state forests in Garrett County. We have since reviewed this draft analysis for both counties and will be including the results in each of the appropriate Sustainable Forest Management Plans.

- Responsible Person

Jack Perdue, Forest Resource Planning and the Maryland forest certification coordinator, will coordinate the necessary work with the staff GIS forester and State Forest managers.

- Completion Date

The results will be presented at the 2018 audit and will be included in the updated Sustainable Forest Management Plans which will be available on the DNR website.

**Maryland Department of Natural Resources
Forest Service**



**Forest Stewardship Council
Audit 2017**

Corrective Action Plan

2017.1

FSC Indicator: US 7.1.b, 7.1.c., and 7.1.d

Non-Conformity (or Background/ Justification in the case of Observations):

Continuation of OBS 2016.1, 2016.3, and 2016.4. According to interviews with FME staff, the Sustainable Forest Management Plans (SFMPs) for the Western Region are currently being revised for several reasons, including updating the information about the historical presence of conifers in the landscape and desired future conditions for these species. Some options for conifer management are being exercised as described in Annual Work Plans (AWPs), as in the case of the Northern goshawk.

The SFMPs describe the history of land use and past management, current forest types and associated development, size class and/or successional stages, and natural disturbance regimes that affect the FMU (see Indicator 6.1.a). However, the historical presence of conifers in the management plan could be expanded to include the knowledge presented by local forestry staff in 2016, which could help set the stage for conifer objectives on the landscape.

FME is considering expanding the use of native (e.g., Eastern white pine, Eastern hemlock, Virginia pine, Shortleaf pine, etc.) and non-native conifers (e.g., Norway spruce and Red pine) on certain sites as a wildlife management component, to restore native species (both conifer and broadleaf), and possibly to adapt to climate change and invasive pests/ pathogens. At the landscape level, FME has completed a partial assessment of the conifer cover as described in its response to OBS 2016.1, but a way to compare the county-level information from the early 1900s to today is incomplete. Information on current conifer cover on Western State Forests is complete.

At the landscape level, the desired future condition of the native and non-native conifer component, including selection of species that will meet social, economic, and ecological objectives depending on site conditions, has not been fully completed. FME

staff pointed out that maintenance of current conditions may be desirable in many instances. However, opportunities to explore connectivity between conifer cover types for wildlife movement, hydrology or other objectives could be explored.

Corrective Action Request (or Observation): – The FMP should describe historical ecological conditions, history of land use and past management, current forest types and associated development, size class and/or successional stages, and natural disturbance regimes that affect the FMU (see Indicator 6.1.a).

The FME should describe a) current conditions of the timber and non-timber forest resources being managed; b) desired future conditions; c) historical ecological conditions; and d) applicable management objectives and activities to move the FMU toward desired future conditions.

2017.2

FSC Indicator: FSC-US 7.1.e.

Non-Conformity (or Background/ Justification in the case of Observations):

Upgrade of OBS 2016.4. In 2016, the FY2017 Annual Work Plans (AWPs) were still under draft and thus the issue with incomplete AWP's was not a nonconformity. While many of the sensitive resources in question may be maintained under passive management, the AWP's are being implemented without sufficient review from Natural Heritage staff. Not only is review of options for conservation and/or maintenance of RTE species and communities an integral part of the FME's procedures, it also is something that stakeholders expect from FSC-certified entities to conform to indicator 7.1.e. The AWP's are a component of the management plan.

According to interviews with FME staff, of concern is the sensitive nature of some of the natural heritage information. As is the case in most states, confidential information may be excluded from publicly available documents in order to protect the resource.

Corrective Action Request (or Observation): The FMP shall include a description of the following resources and outline activities to conserve and/or protect:

- rare, threatened, or endangered species and natural communities (see Criterion 6.2);
- plant species and community diversity and wildlife habitats (see Criterion 6.3);

- water resources (see Criterion 6.5);
- soil resources (see Criterion 6.3);
- Representative Sample Areas (see Criterion 6.4);
- High Conservation Value Forests (see Principle 9);
- Other special management areas.

2017.3

FSC Indicator: FSC-STD-50-001 V1-2, 1.15, 1.16, and 6.1.

Non-Conformity (or Background/ Justification in the case of Observations):

The appropriate trademark symbol (® in superscript font) does not accompany the first use of "FSC" and "Forest Stewardship Council" on the FME's website.

No trademark approval records for the three detected uses were available (brochure, website, and AWP template).

The website does not have the promotional panel, or at least the FSC trademark license code, in a prominent place.

Corrective Action Request (or Observation):

FME shall implement corrective actions to resolve the nonconformities described above.